Ref. No. 3560

ONKYO® SERVICE MANUAL

QUARTZ SYNTHESIZED
TUNER AMPLIFIER
MODEL TX-SV444 / MODEL TX-SE500

Black model

BMD/BMDN	120V AC, 60Hz
BMP	230V AC, 50Hz
BMW	120V or 220V AC, 50/60Hz

Black and Golden models

BMP/GMP	230V AC, 50Hz
BMW/GMW	120V or 220V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

ONKYO®
AUDIO COMPONENTS

TABLE OF CONTENTS

SPECIFICATIONS

AMPLIFIER SECTION

Power Output
- Stereo mode
  - Front L/R channels: 70 watts per channel, min. RMS at 8 ohms, both channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.
  - Continuous Power output: 2 × 80 watts at 8 ohms, 1 kHz (DIN)
- Surround mode
  - Front L/R and Center channels: 60 watts per channel, min. RMS at 8 ohms, both channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.
  - Rear channels (Rear only driven): 20 watts per channel, min. RMS at 8 ohms, both channels driven from 20 Hz to 20 kHz with no more than 0.3% total harmonic distortion.

Total Harmonic Distortion: 0.08% at rated power (Front)
IM Distortion: 0.08% at rated power (Front)
Damping Factor: 60 at 8 ohms (Front)
Sensitivity and Impedance
- Phono: 2.5 mV/50 kohms
- CD, Multi-CH, Tape Play: 150 mV/50 kohms
- Tape Rec: 150 mV/2.2 kohms
- Subwoofer Pre out: 2 V/2.2 kohms

Phono Overload: 120 mV RMS at 1 kHz, 0.5% T.H.D.
Frequency Response: 20 Hz to 30 kHz, ±1 dB
RIAA Deviation: 20 Hz to 20 kHz, ±0.8 dB
Tone Control
- Bass: ±10 dB at 100 Hz
- Treble: ±10 dB at 10 kHz

Signal-to-Noise Ratio
- Phono: 80 dB (IHF A, 5 mV input)
- CD/Tape: 100 dB (IHF A)

VIDEO SECTION

Signal sensitivity and impedance: 1 Vp-p, 75 ohms (VDP/VCR input, output)

TUNER SECTION

FM

Tuning Range: 87.5 — 108.0 MHz
Usable Sensitivity
- Mono: 11.2 dBf, 1.0 µV (75 ohms)
- Stereo: 18.2 dBf, 2.2 µV (75 ohms)

50 dB Quieting Sensitivity
- Mono: 18.2 dBf, 2.2 µV (75 ohms)
- Stereo: 39.2 dBf, 24 µV (75 ohms)

Capture Ratio: 1.5 dB
Image Rejection Ratio
- U.S.A. & Canadian models: 40 dB
- Other area models: 85 dB

IF Rejection Ratio: 90 dB
Signal-to-Noise Ratio
- Mono: 73 dB
- Stereo: 67 dB

Alternate Channel Attenuation: 55 dB
Selectivity: 50 dB (DIN)
AM Suppression Ratio: 50 dB
Total Harmonic Distortion
- Mono: 0.15%
- Stereo: 0.25%

Frequency Response: 30 Hz — 15 kHz, ±1.5 dB
Stereo Separation: 45 dB at 1 kHz, 30 dB at 100 Hz — 10 kHz

AM

Tuning Range
- U.S.A. & Canadian models: 530—1,710 kHz (10 kHz steps)
- European & Australian models: 522—1,611 kHz (9 kHz steps)
- Worldwide models: 531—1,602 kHz (9 kHz steps), 530—1,710 kHz (10 kHz steps)

Usable Sensitivity: 30 µV
Image Rejection Ratio: 40 dB
IF Rejection Ratio: 40 dB
Signal-to-Noise Ratio: 40 dB
Total Harmonic Distortion: 0.7%

GENERAL

Power Supply
- U.S.A. & Canadian models: AC 120 V, 60 Hz
- European & Australian models: AC 230 V, 50 Hz
- Worldwide models: AC 220-230 V and 120 V switchable, 50/60 Hz

Power Consumption
- U.S.A. & Canadian models: 3.5 A (420 W)
- Other area models: 250 W

Dimensions (W × H × D): 435 × 150 × 322 mm, 17-1/8" × 5-7/8" × 12-11/16"
Weight: 9.6 kg, 21.2 lbs.

REMOTE CONTROL

Transmitter: Infrared
Signal range: Approx. 5 meters, 16 ft.
Power supply: Two "AA" batteries (1.5 V × 2)
Dimensions (W × H × D): 65 × 18 × 194 mm, 2-9/16" × 11/16" × 7-5/8"
Weight: 110 grams, 3.9 oz. (including batteries)

Specifications and features are subject to change without notice.

SERVICE PROCEDURES

1. Replacing the fuses

This symbol located near the fuse indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating refer to the marking adjacent to the symbol.

Ce symbole indique que le fusible utlise est a rapide. Pour une protection permanente, n'utiliser que des fusibles de meme type. Ce darnier est indique la qu le present symbol est appose.

CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252164Y	5A-UL/T-237,Primary 〈D/W〉
F902	252076	3.15A-SE-EAK ,Primary 〈P/W〉
F903	252075	2.5A-SE-EAK,Primary 〈P〉
F921,F922	252163Y	4A-UL/T-237,Secondary<D>
	252077	4A-SE-EAK,Secondary<P/W>

NOTE : <D> : 120V model only
<P> : 230V model only
<W> : Worldwide model

2. To Initialize the unit

This device employs a microprocessor to perform various functions and operations. If interference generated by an external power supply, radio wave, or other electrical source results in accident which causes the specified operations and functions to operate abnormally.

To perform a result, please follow the procedure below.

1. **Turn the power button "ON"**
2. **Press and hold down the Video 1 button, then press the SPEAKER A button.**
3. **After "clear" is displayed, the preset memory and each mode stored in the memory, such as surround, are initialized and will return to the factory settings.**

3. Safety-check out

(Only U.S.A. model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and the screw on the back panel.

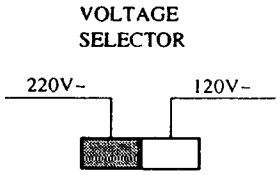
Specifications: 3.3 Mohm±10% at 500V.

4. Change of voltage

Worldwide models are equipment with a voltage selector to conform with local power supplies. This switch is located on the back panel.

Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on.

This switch is set to 220V at the factory. Voltage is changed by sliding the groove in the switch with the screwdriver to the right or left. Confirm that the switch has been moved all the way to the right or left before turning the power switch on.



5. Memory preservation

This unit does not require memory preservation batteries.

A built-in memory power back-up system preserves contents of the memory during power failures and even when the unit is unplugged.

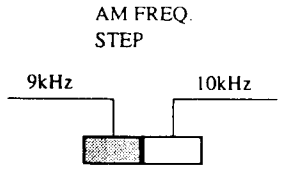
The unit must be plugged in and the power switch turned on and off once in order to charge the back-up system. Note that since this is not a permanent memory, the power switch must be turned on and off a few times each month the keep the back-up system operative.

The period of the time during which memory contents are preserved after power has last been turned off varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of 3 to 4 weeks (a minimum of 2 weeks) after the last time power has been turned off. This period is shorted when the unit is exposed to very high humidity or used in an area with an extremely humid climate.

6. Setting the tuning step frequency

Worldwide models are equipped with a step band selector switch. This switch is located on the back panel. This switch is set to 9 kHz at the factory, but may have to be reset to 10 kHz depending on the area where the unit is used.

	AM band step
Europe:	9 kHz
U.S.A.:	10 kHz



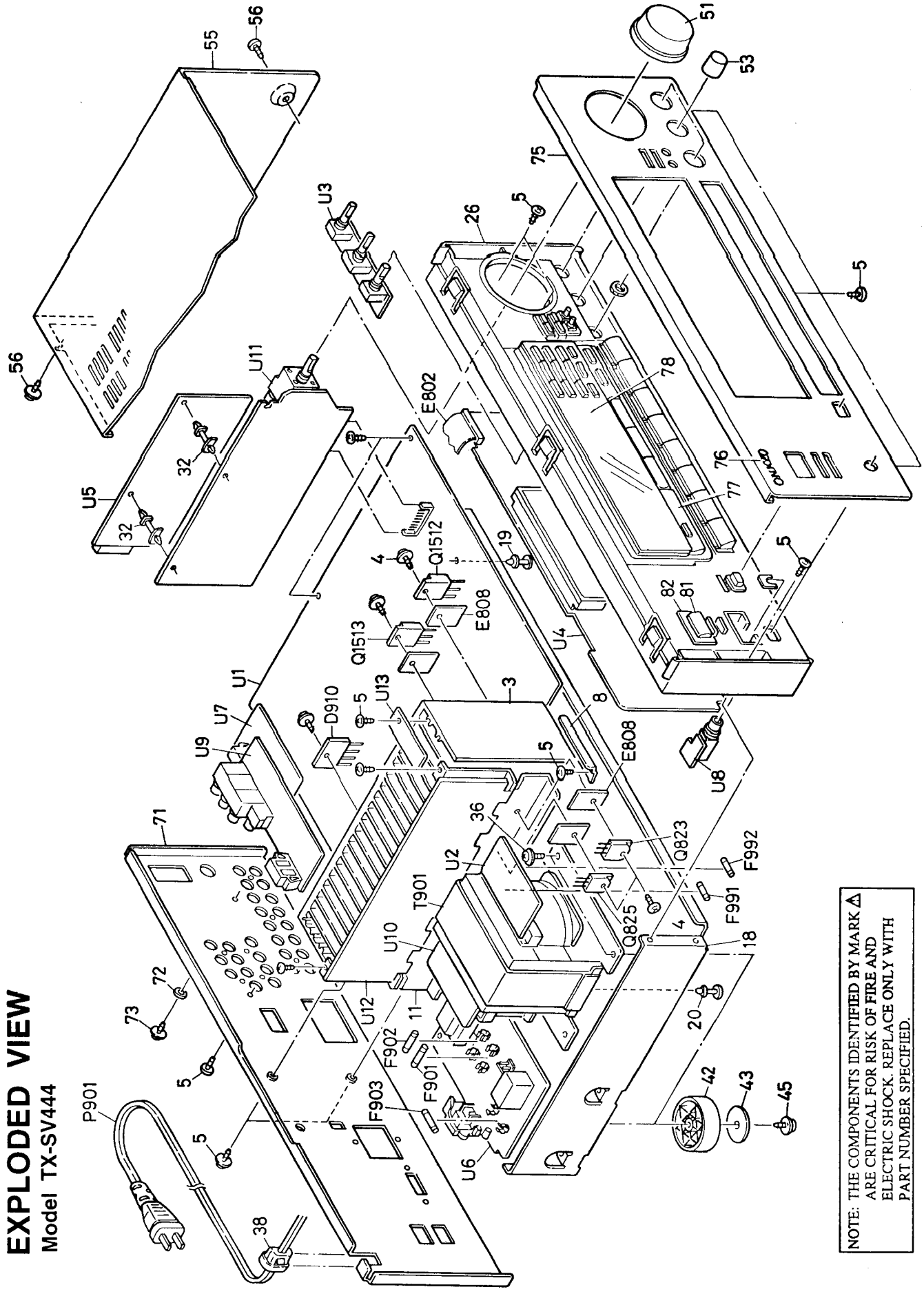
7. Changing the band step

With the exception of the worldwide models, a tuning step selector switch is not provided. When you change the band step, change the parts as shown below.

	To 10kHz	To 9kHz
R727	Open	Short
R724	3.3kohm	Remove

EXPLODED VIEW

Model TX-SV444



NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PARTS LIST

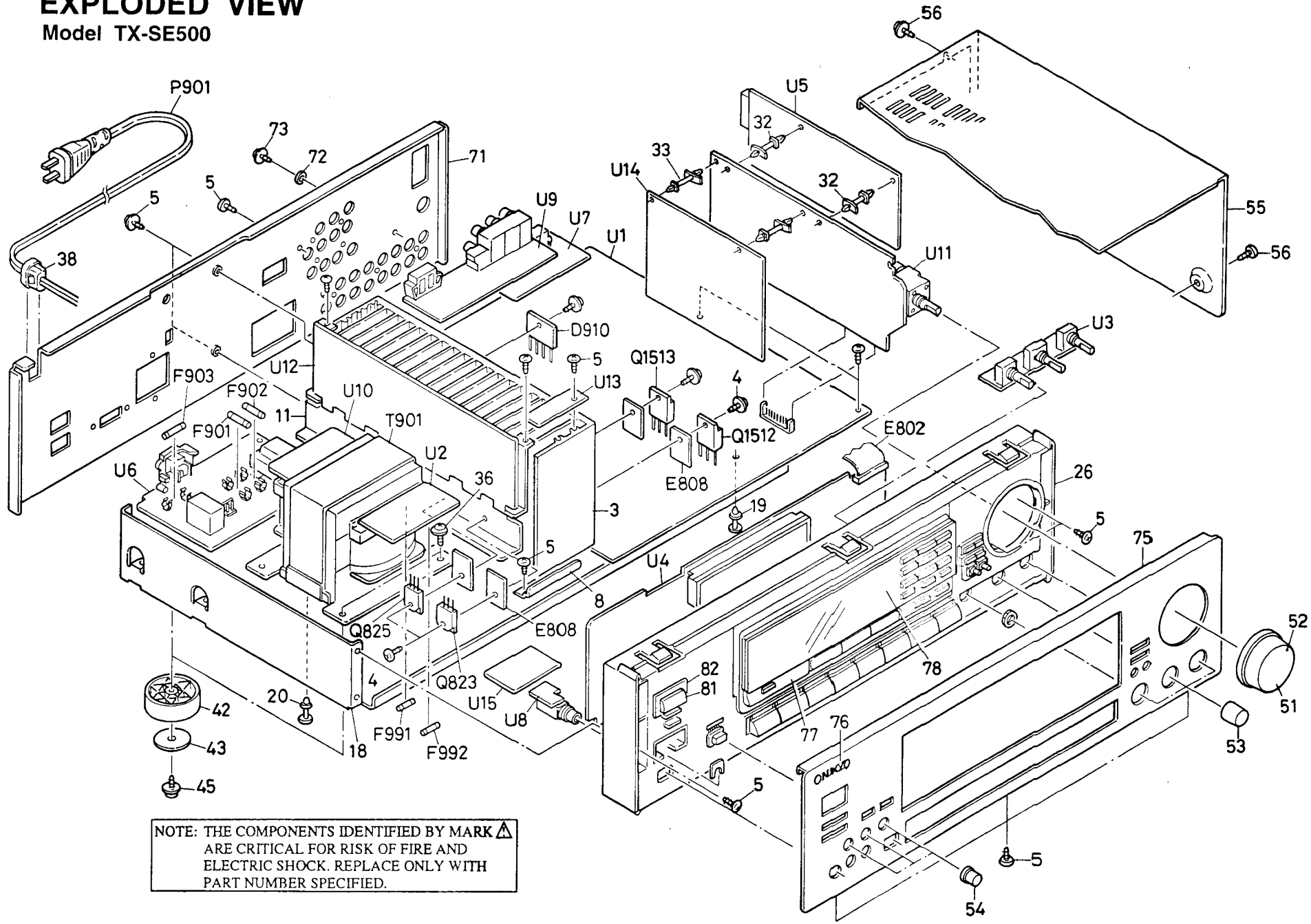
NOTE: <D>:120V model only
<P>:230V model only
<W>:Taiwanese model only
<A>:Australian model only
<T>:Asian model only
<K>:Korean model only

REF. NO.	PART NO.	DESCRIPTION
3	27160375Y	Heatsink
4	801433	3SMS8W.SW+14B(BC), Special screw
5	838130088	3TTB+8B, Self-tapping screw
8	27141671	Retainer
11	27160376	Heatsink S
18	27100320AY	Chassis
19	27190503A	KGLS-8RF, Holder
20	27190266	KGLS-12RF, Holder
24	28175225Y	Isolation plate
26	27110952Y	Front bracket
32	27190896	KGLS-10S, Holder
36	830440089	4TTC+8C(BC), Self-tapping screw
38	27300750	⚠ #2271, Bushing cord
42	27175319Y	Leg
43	28141332Y	Cushion for leg
45	831430088	3TTW+8B(BC), Self-tapping screw
51	28325456Y	Knob, Volume
53	28325454Y	Knob, Tone
55	28184663Y	Top cover
56	838430088	3TTB+8B(BC), Self-tapping screw
71	27122260Y	Rear panel <D>
	27122261Y	Rear panel <P>
	27122262Y	Rear panel <W>
	27122263Y	Rear panel <A>
	27122264Y	Rear panel <T>
	27122269Y	Rear panel <K>
72	87643010	W3x10F(BC), Washer
73	838230088	3TTB+8B(NI), Nickel screw
75	27211859Y	Front panel <D>
76	28135244Y	Badge
77	27215273Y	Decorative frame
78	28191752AY	Clear plate
81	28325451Y	Knob, power <P/A/K/T/W>
82	27267955Y	Guide, power <P/A/K/T/W>
D910	22380038	⚠ RBV602
E801	260208	Binder
E802	2047352012Y	NCFC7-352012, Flexible flat cable
E808	223024	⚠ AC238, Isolation sheet
F901	252164Y	⚠ 5A-UL/T-237, Fuse <D/W>
F902	252076	⚠ 3.15A-SE-EAK, Fuse <P/A/T/K/W>
F903	252075	⚠ 2.5A-SE-EAK, Fuse <P/T>
F991,F992	252077	⚠ 4A-SE-EAK, Fuse <P/A/T/K/W>
	252163Y	⚠ 4A-UL/T-237, Fuse <D>
P901	253192HIT	⚠ AS-UC-6#18, Power supply cord <D>
	253193HIT	⚠ AS-CEE, Power supply cord <P/T>
	253197HIT	⚠ AS-SAA, Power supply cord <A>
	253213WSE	⚠ AS-KS, Power supply cord <K>
	253233KAW	⚠ AS-CEE-2, Power supply cord <W>
P904,P905	25051266	⚠ NSCT-2P1056, AC outlet <K>
	25051570	⚠ NSCT-2P1357, AC outlet <A>
Q523,Q524	2202843 or	2SC5242-O or
Q1512	2202842	2SC5242-R, Transistor
Q525,Q526	2202833 or	2SA1962-O or
Q1513	2202832	2SA1962-R, Transistor
Q823,Q824	2202923 or	2SC5196-O or
	2202922	2SC5196-R, Transistor
Q825,Q826	2202913 or	2SA1939-O or
	2202912	2SA1939-R, Transistor

REF. NO.	PART NO.	DESCRIPTION
T901	2301228Y	⚠ NPT-1287D, Power transformer <D>
	2301229Y	⚠ NPT-1287P, Power transformer <P/A/T>
	2301271Y	⚠ NPT-1301DG, Power transformer <K/W>
U1	1A720584-1AY	NAAR-5884-1A, Main circuit pc board ass'y <D>
	1A720584-1BY	NAAR-5884-1B, Main circuit pc board ass'y <K/W/P/A/T>
U2	1A720585-1BY	NAETC-5885-1B, Secondary circuit pc board ass'y <P/W/T/A/K>
	1A720585-1AY	NAETC-5885-1A, Secondary circuit pc board ass'y <D>
U3	1A720586-1BY	NAETC-5886-1B, Tone control circuit pc board ass'y <P/W/A/T/K>
	1A720586-1AY	NAETC-5886-1A, Tone control circuit pc board ass'y <D>
U4	1A720587-1AY	NADIS-5887-1A, Display circuit pc board ass'y <D>
	1A720587-1BY	NADIS-5887-1B, Display circuit pc board ass'y <P>
	1A720587-1CY	NADIS-5887-1C, Display circuit pc board ass'y <T>
	1A720587-1DY	NADIS-5887-1D, Display circuit pc board ass'y <W>
	1A720587-1EY	NADIS-5887-1E, Display circuit pc board ass'y <K>
	1A720587-1FY	NADIS-5887-1F, Display circuit pc board ass'y <A>
U5	1A720588-1AY	NARF-5888-1A, Tuner circuit pc board ass'y <D>
	1A720588-1BY	NARF-5888-1B, Tuner circuit pc board ass'y <P>
	1A720588-1CY	NARF-5888-1C, Tuner circuit pc board ass'y <T>
	1A720588-1DY	NARF-5888-1D, Tuner circuit pc board ass'y <W>
	1A720588-1EY	NARF-5888-1E, Tuner circuit pc board ass'y <K>
	1A720588-1FY	NARF-5888-1F, Tuner circuit pc board ass'y <A>
U6	1A720589-1AY	NAPS-5889-1A, Power supply circuit pc board ass'y <D>
	1A720589-1BY	NAPS-5889-1B, Power supply circuit pc board ass'y <P>
	1A720589-1CY	NAPS-5889-1C, Power supply circuit pc board ass'y <T>
	1A720589-1DY	NAPS-5889-1D, Power supply circuit pc board ass'y <W>
	1A720589-1EY	NAPS-5889-1E, Power supply circuit pc board ass'y <K>
	1A720589-1FY	NAPS-5889-1F, Power supply circuit pc board ass'y <A>
U7	1A720590-1AY	NAETC-5890-1A, Video terminal pc board ass'y <D>
	1A720590-1BY	NAETC-5890-1B, Video terminal pc board ass'y <P>
	1A720590-1CY	NAETC-5890-1C, Video terminal pc board ass'y <T>
	1A720590-1DY	NAETC-5890-1D, Video terminal pc board ass'y <W>
	1A720590-1EY	NAETC-5890-1E, Video terminal pc board ass'y <K>
	1A720590-1FY	NAETC-5890-1F, Video terminal pc board ass'y <A>
U8	1A720591-1AY	NAETC-5891-1A, Hadphone terminal pc board ass'y <D>
	1A720591-1BY	NAETC-5891-1B, Hadphone terminal pc board ass'y <P>
	1A720591-1CY	NAETC-5891-1C, Hadphone terminal pc board ass'y <T>
	1A720591-1DY	NAETC-5891-1D, Hadphone terminal pc board ass'y <W>
	1A720591-1EY	NAETC-5891-1E, Hadphone terminal pc board ass'y <K>
	1A720591-1FY	NAETC-5891-1F, Hadphone terminal pc board ass'y <A>
U9	1A720592-1AY	NAETC-5892-1A, Video terminal pc board ass'y <D>
	1A720592-1BY	NAETC-5892-1B, Video terminal pc board ass'y <P>
	1A720592-1CY	NAETC-5892-1C, Video terminal pc board ass'y <T>
	1A720592-1DY	NAETC-5892-1D, Video terminal pc board ass'y <W>
	1A720592-1EY	NAETC-5892-1E, Video terminal pc board ass'y <K>
	1A720592-1FY	NAETC-5892-1F, Video terminal pc board ass'y <A>
U10	1A720593-1AY	NAETC-5893-1A, Primary terminal pc board ass'y
	1A720593-1BY	NAETC-5893-1B, Primary terminal pc board ass'y
	1A720593-1CY	NAETC-5893-1C, Primary terminal pc board ass'y
	1A720593-1DY	NAETC-5893-1D, Primary terminal pc board ass'y
	1A720593-1EY	NAETC-5893-1E, Primary terminal pc board ass'y
	1A720593-1FY	NAETC-5893-1F, Primary terminal pc board ass'y
U11	1A720594-1AY	NAAF-5894-1A, Volume circuit pc board ass'y <D>
	1A720594-1BY	NAAF-5894-1B, Volume circuit pc board ass'y <P/T/A/K>
	1A720594-1CY	NAAF-5894-1C, Volume circuit pc board ass'y <W>
U12	1A720595-1AY	NAAF-5895-1A, Rear amplifier pc board ass'y <D>
	1A720595-1BY	NAAF-5895-1B, Rear amplifier pc board ass'y <P/T/A/K>
	1A720595-1CY	NAAF-5895-1C, Rear amplifier pc board ass'y <W>
U13	25135984	NCETC-5984, Holder for lead wire

EXPLODED VIEW

Model TX-SE500



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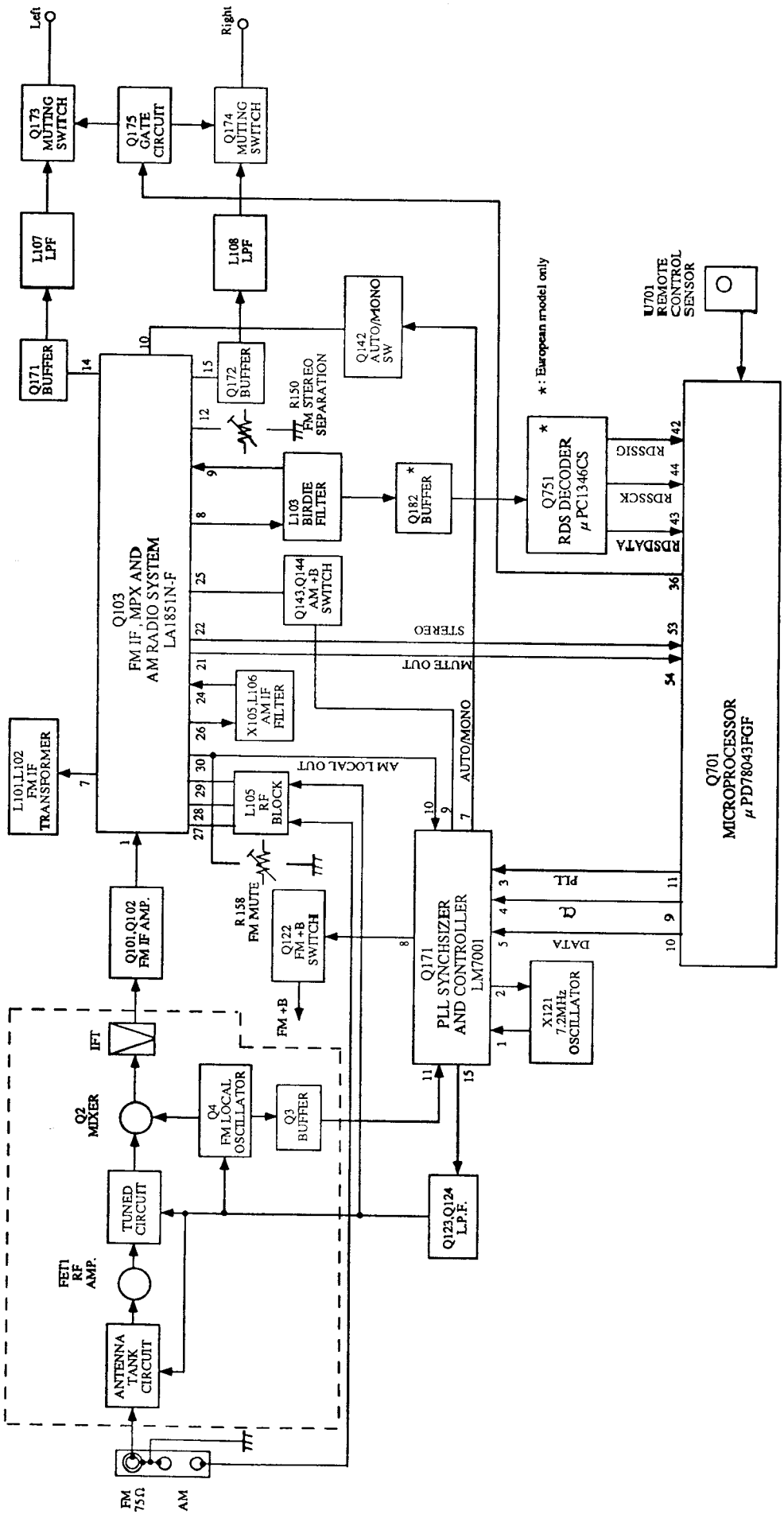
PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
3	27160375Y	Heatsink
4	801433	3SMS8W.SW+14B(BC), Special screw
5	838130088	3TTB+8B, Self-tapping screw
8	27141671	Retainer
11	27160376	Heatsink S
18	27100320AY	Chassis
19	27190503A	KGLS-8RF, Holder
20	27190266	KGLS-12RF, Holder
24	28175225Y	Isolation plate
26	27110952Y	Front bracket <B>
	27110992Y	Front bracket <G>
32	27190896	KGLS-10S, Holder
33	27190470Y	KGLS-18S, Holder
36	830440089	4TTC+8C(BC), Self-tapping screw
38	27300750	⚠ #2271, Bushing cord
42	27175319Y	Leg
43	28141332Y	Cushion for leg
45	831430088	3TTW+8B(BC), Self-tapping screw
51	28325456Y	Knob, Volume <B>
	28325493Y	Knob, Volume <G>
53	28325454Y	Knob, Tone <B>
	28325494Y	Knob, Tone <G>
54	28325452Y	Knob, Mic. <B>
	28325495Y	Knob, Mic. <G>
55	28184663Y	Top cover <B>
	28184682Y	Top cover <G>
56	838430088	3TTB+8B(BC), Self-tapping screw <B>
	838230088	3TTB+8B(Ni), Self-tapping screw <G>
71	27122265Y	Rear panel <P>
	27122267Y	Rear panel <W>
	27122268Y	Rear panel <K>
72	87643010	W3x10F(BC), Washer
73	838230088	3TTB+8B(NI), Nickel screw
75	27211862Y	Front panel <B>
	27211907Y	Front panel <G>
76	28135244Y	Badge <B>
	28135245Y	Badge <G>
77	27215273Y	Decorative frame <B>
	27215275Y	Decorative frame <G>
78	28191752AY	Clear plate <B>
	28191778Y	Clear plate <G>
81	28325451Y	Knob, power <B>
	28325496Y	Knob, power <G>
82	27267955Y	Guide, power <B>
	27267959Y	Guide, power <G>
D910	22380038	⚠ RBV602
E801	260208	Binder
E802	2047352012Y	NCFC7-352012, Flexible flat cable
E808	223024	⚠ AC238, Isolation sheet
E815	260208Y	Wire tie

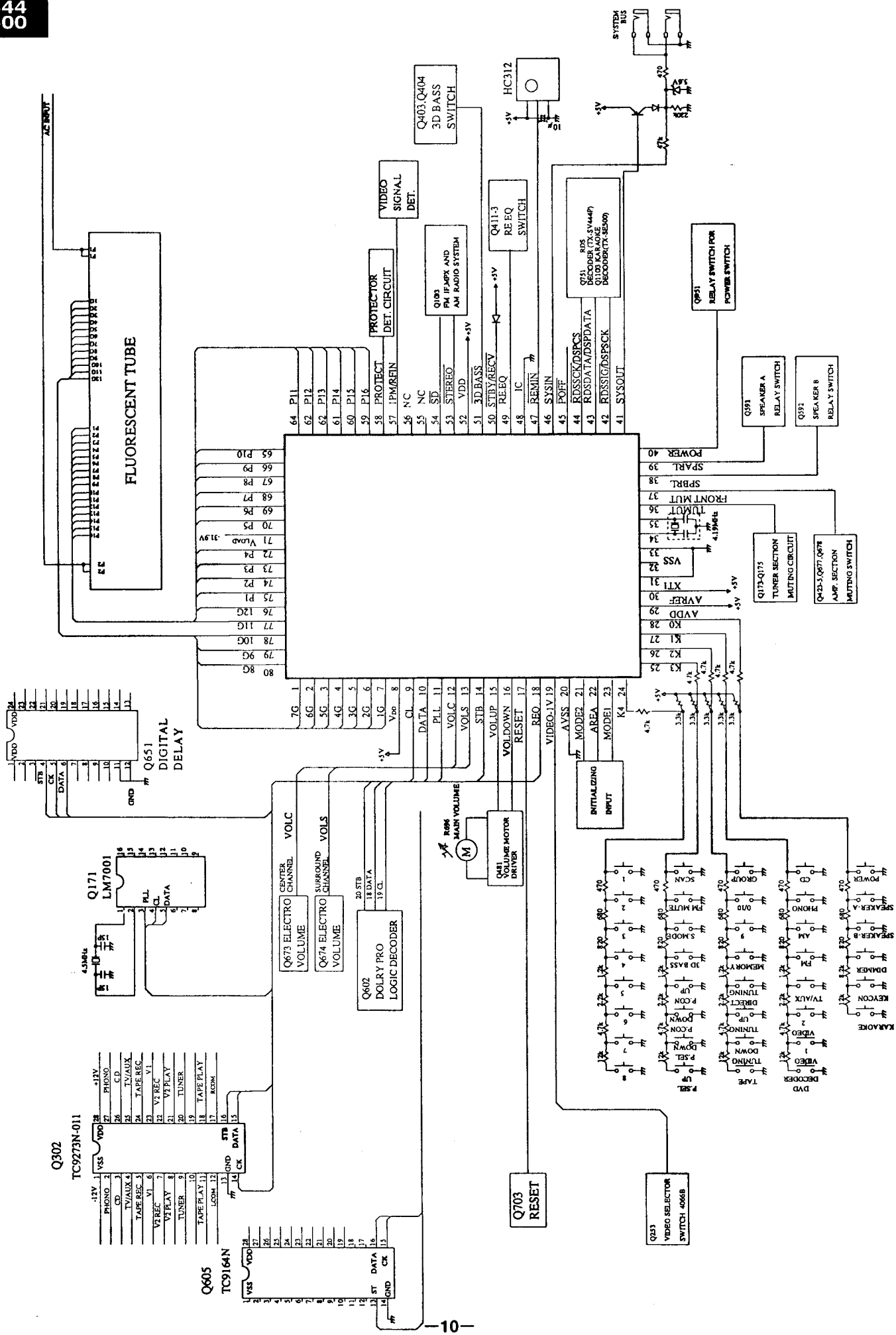
REF. NO.	PART NO.	DESCRIPTION
F901	252164Y	⚠ 5A-UL/T-237, Fuse <W>
F902	252076	⚠ 3.15A-SE-EAK, Fuse
F903	252075	⚠ 2.5A-SE-EAK, Fuse <P>
F991,F992	252077	⚠ 4A-SE-EAK, Fuse
P901	253193HIT	⚠ AS-CEE, Power supply cord <P>
P901	253213WSE	⚠ AS-KS, Power supply cord <K>
P901	253233KAW	⚠ AS-CEE-2, Power supply cord <W>
P904,P905	25051266	⚠ NSCT-2P1056, AC outlet <K>
Q523,Q524	2202843 or	2SC5242-O or
Q1512	2202842	2SC5242-R, Transistor
Q525,Q526	2202833 or	2SA1962-O or
Q1513	2202832	2SA1962-R, Transistor
Q823,Q824	2202923 or	2SC5196-O or
	2202922	2SC5196-R, Transistor
Q825,Q826	2202913 or	2SA1939-O or
	2202912	2SA1939-R, Transistor
T901	2301229Y	⚠ NPT-1287P, Power transformer <P>
	2301271Y	⚠ NPT-1301DG, Power transformer <K/W>
U1	1A721584-2Y	NAAR-5884-2, Main circuit pc board ass'y
U2	1A721585-2Y	NAETC-5885-2, Secondary circuit pc board ass'y
U3	1A721586-2Y	NAETC-5886-2, Tone control circuit pc board ass'y
U4	1A721587-2AY	NADIS-5887-2A, Display circuit pc board ass'y <P>
	1A721587-2BY	NADIS-5887-2B, Display circuit pc board ass'y <W>
	1A721587-2CY	NADIS-5887-2C, Display circuit pc board ass'y <K>
U5	1A721588-2AY	NARF-5888-2A, Tuner circuit pc board ass'y <P>
	1A721588-2BY	NARF-5888-2B, Tuner circuit pc board ass'y <W>
	1A721588-2CY	NARF-5888-2C, Tuner circuit pc board ass'y <K>
U6	1A721589-2AY	NAPS-5889-2A, Power supply circuit pc board ass'y <P>
	1A721589-2BY	NAPS-5889-2B, Power supply circuit pc board ass'y <W>
	1A721589-2CY	NAPS-5889-2C, Power supply circuit pc board ass'y <K>
U7	1A721590-2AY	NAETC-5890-2A, Video terminal pc board ass'y <P>
	1A721590-2BY	NAETC-5890-2B, Video terminal pc board ass'y <W>
	1A721590-2CY	NAETC-5890-2C, Video terminal pc board ass'y <K>
U8	1A721591-2AY	NAETC-5891-2A, Hadphone terminal pc board ass'y <P>
	1A721591-2BY	NAETC-5891-2B, Hadphone terminal pc board ass'y <W>
	1A721591-2CY	NAETC-5891-2C, Hadphone terminal pc board ass'y <K>
U9	1A721592-2AY	NAETC-5892-2A, Video terminal pc board ass'y <P>
	1A721592-2BY	NAETC-5892-2B, Video terminal pc board ass'y <W>
	1A721592-2CY	NAETC-5892-2C, Video terminal pc board ass'y <K>
U10	1A721593-2AY	NAETC-5893-2A, Primary terminal pc board ass'y <P>
	1A721593-2BY	NAETC-5893-2B, Primary terminal pc board ass'y <W>
	1A721593-2CY	NAETC-5893-2C, Primary terminal pc board ass'y <K>
U11	1A721594-2Y	NAAF-5894-2, Volume circuit pc board ass'y <P/K>
	1A721594-2AY	NAAF-5894-2A, Volume circuit pc board ass'y <W>
U12	1A721595-2Y	NAAF-5895-2, Rear amplifier pc board ass'y <P/K>
	1A721595-2AY	NAAF-5895-2A, Rear amplifier pc board ass'y <W>
U13	25135984	NCETC-5984, Holder for lead wire
U14	1A721596-1Y	NADG-5896-1, Digital circuit pc board ass'y
U15	1A721597-1Y	NAETC-5897-1, Mic. terminal pc board ass'y

NOTES:
<B>: Black model only
<G>: Golden model only
<P>: Asian model only
<W>: Taiwanese model only
<K>: Korean model only

OTHER MODELS



MICROPROCESSOR CONNECTION DIAGRAM



MICROPROCESSOR TERMINAL DESCRIPTION

Pin No.	Function	Descriptions
1~7	7G~1G	Grid output terminals
8	VDD	Positive power supply terminal (+5V)
9	CL	Clock output terminal.
10	DATA	Data output terminal.
11	PLL	Chip enable output terminal for PLL IC
12	VOLC	Clock output terminal for electro volume of center channel.
13	VOLS	Clock output terminal for electro volume of surround channels.
14	STB	Strobe output terminal
15	VOLUP	Volume control output terminal
16	VOLDOWN	Volume control output terminal
17	$\overline{\text{RESET}}$	System reset input terminal
18	REQ	Request terminal for Digital delay and Dolby ICs
19	VIDEO-1V	Video signal selector terminal
20	AVSS	Ground terminal for A/D converter
21	MODE2	Initializing input terminal
22	AREA	Initializing input terminal for region of frequency range
23	MODE1	Initializing input terminal
24	K4~K0	Key input terminals
29	AVDD	Analog power supply terminal (+5V)
30	AVREF	Reference voltage input terminal for A/D converter
31	XT1	Crystal connection terminals for subsystem clock
32	XT2	Not used.
33	VSS	Ground terminal
34	X1	Crystal connection terminals for main system clock
35	X2	Connect the 4.19MHz ceramic oscillator.
36	TUMUT	Muting output terminal for tuner section
37	FRONTMUT	Muting output terminal for amplifier of front channels.
38	SPBRL	Speaker relay B control output terminal
39	SPARL	Speaker relay A control output terminal
40	POWER	Power source control output terminal
41	$\overline{\text{SYSOUT}}$	System code output terminal
42	$\overline{\text{RDSSIG}}$	Detection input terminal for RDS broadcast
43	RDSDATA	Data input terminal for RDS broadcast
44	$\overline{\text{RDSSCK}}$	Clock input terminal from RDS demodulator
42	DSPSCK	Clock output terminal for KARAOKE IC.
43	DSPDATA	Data output terminal for KARAOKE IC.

Pin No.	Function	Descriptions
44	DSPCS	Chip select output terminal for KARAOKE IC.
45	$\overline{\text{POFF}}$	Power failure detection input terminal
46	SYSIN	system code input terminal
47	$\overline{\text{REMIN}}$	Remote control signal input terminal
48	IC	Internal connection terminal
49	RE-EQ	RE-EQ control output terminal
50	$\overline{\text{STBY/RECV}}$	STANDBY/RECEIVED indication output terminal
51	$\overline{\text{3DB}}$	3-D bass control output terminal
52	VDD	Power supply terminal (+5V)
53	$\overline{\text{STEREO}}$	Stereo broadcast detection input terminal
54	$\overline{\text{SD}}$	Broadcast detection input terminal
55,56	NC	Not used.
57	IPM	Audio IPM operation input terminal
58	PROTECT	Detection input terminal for protection circuit
59	P16~P5	Segment output terminals
71	VLOAD	Pull-down resistor connection terminal for FIP controller and driver
72	P4~P1	Segment output terminals
76~80	12G~8G	Grid output terminals

Volume control output

	15	16
Stop	H	H
Up	H	L
Down	L	H

FM band

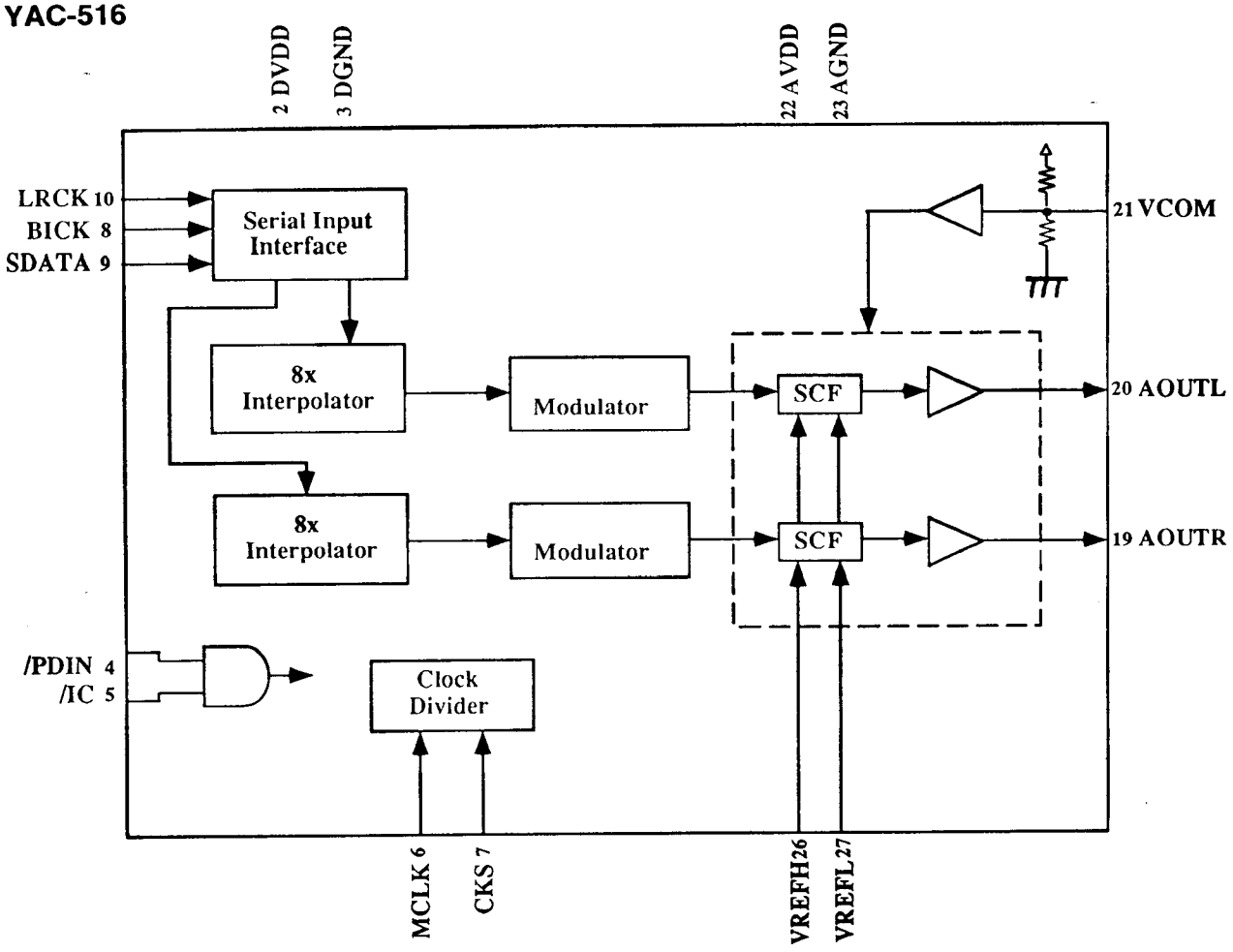
BAND1	BAND0	Region	Frequency Range	Channel space
0	0	Europe	87.50~108.00MHz	50kHz
0	1	Saudi	87.50~108.00MHz	50kHz
1	0	Japan	76.0~90.0MHz	100kHz
1	1	U.S.A	87.5~108MHz	100kHz

AM band

BAND1	BAND0	AM10K	Region	Frequency Range	Channel space
0	0	0	Europe	522~1611kHz	9 kHz
0	1	0	Saudi	531~1602kHz	9 kHz
1	0	0	Japan	522~1629kHz	9 kHz
1	1	0	U.S.A	522~1629kHz	9 kHz
1	1	1	U.S.A	530~1710kHz	10 kHz

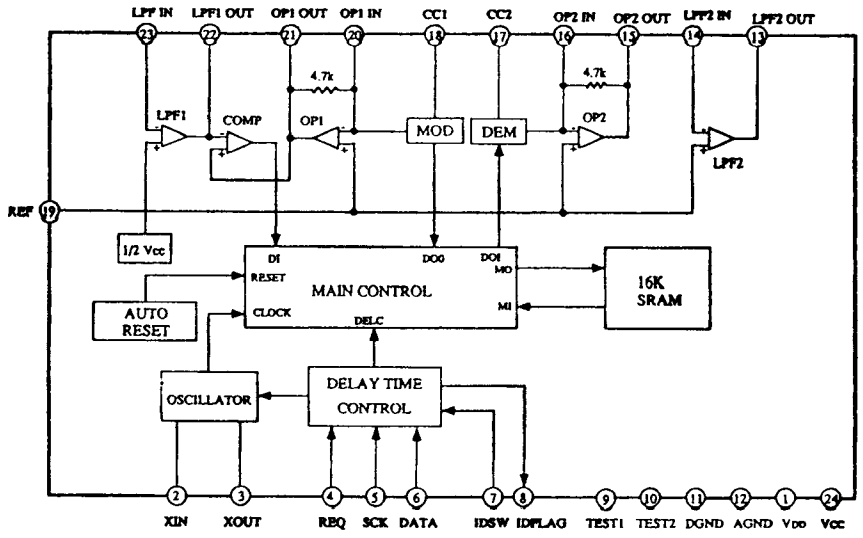
IC BLOCK DIAGRAM AND DESCRIPTIONS

YAC-516



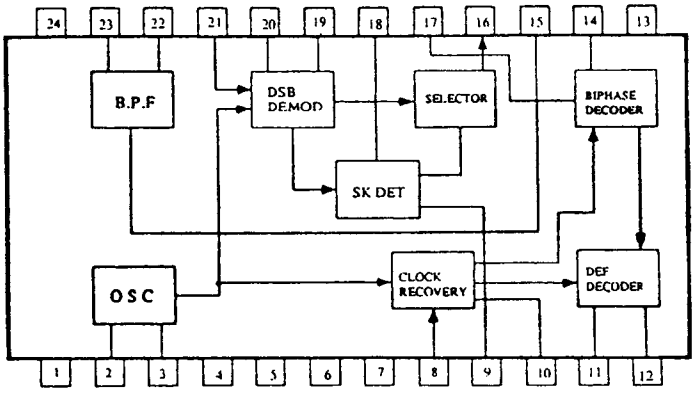
Pin No.	Terminal	I/O	Function
1	TST 1	I	Test terminal
2	DVDD	—	Power supply terminal for digital section
3	DGND	—	Ground terminal for digital section
4	/PDIN	I	Power down mode input terminal
5	/IC	I	Initializing clear input terminal
6	MCLK	I	Master clock input terminal
7	CKS	I	Clock select terminal
8	BICK	I	Serial bit clock input terminal
9	SDATA	I	Serial data input pin
10	LRCK	I	Serial L/R clock input terminal
19	AOUTR	OA	Right channel analog output terminal
20	AOUTL	OA	Left channel analog output terminal
21	VCOM	OA	Common voltage terminal
22	AVDD	—	Power supply terminal for analog section
23	AGND	—	Ground terminal for analog section
26	VREFH	IA	Reference voltage input terminal when high level
27	VREFL	IA	Reference voltage input terminal when low level
28	TST 2	O	Test terminal

NJU9702D (Digital Delay)



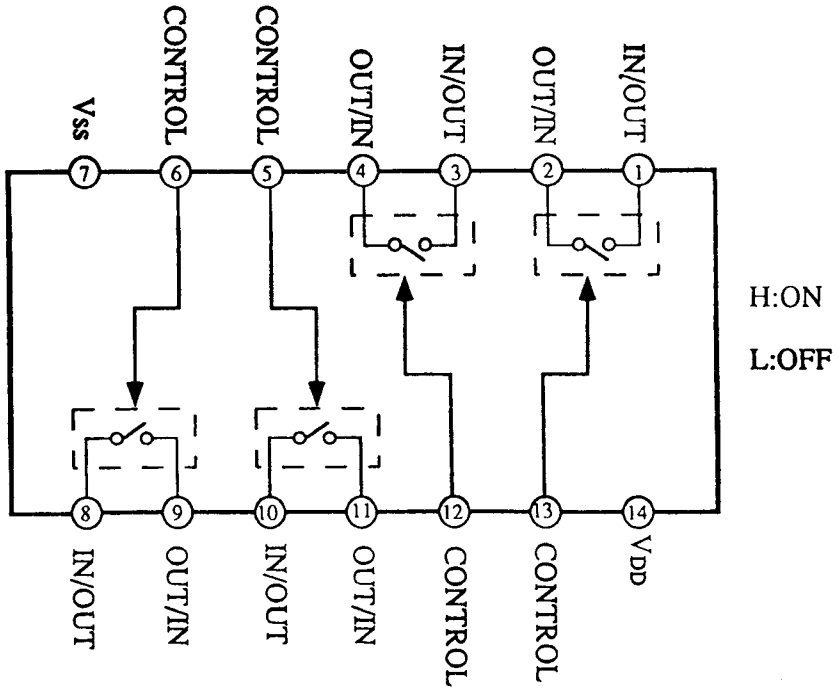
Pin No.	Mark	Function	I/O	Description
1	VDD	Digital power supply	-	
2	XIN	Resonator input	I	Connect the 2MHz ceramic resonator
3	XOUT	Resonator output	O	
4	REQ	Request	I	Data request input
5	SCK	Shift lock	I	Serial data shift clock input
6	DATA	Data	I	Serial data input
7	IDSW	ID switch	I	External input of 4th bit of ID code
8	IDFLAG	ID flag	O	Data input confirmation pulse and serial data output
9	TEST1	Test 1	-	Normal mode when low level
10	TEST2	Test 2	-	Normal mode when low level
11	D GND	Digital ground	-	
12	A GND	Analog ground	-	
13	LPF2 OUT	LPF filter 2 output	O	
14	LPF2 IN	LPF filter 2 input	I	
15	OP2 OUT	Operation amp. 2 output	O	
16	OP2 IN	Operation amp. 2 input	I	
17	CC2	Current control 2	-	Demodulation ADM control
18	CC1	Current control 1	-	Modulation ADM control
19	REF	Reference	-	Analog reference voltage=1/2VCC
20	OP1 IN	Operation amp. 1 input	I	
21	OP1 OUT	Operation amp. 1 output	O	
22	LPF1 OUT	LPF filter 1 output	O	
23	LPF1 IN	LPF filter 1 input	I	
24	VCC	Analog power supply	-	

μPC1346CS (RDS Decoder)

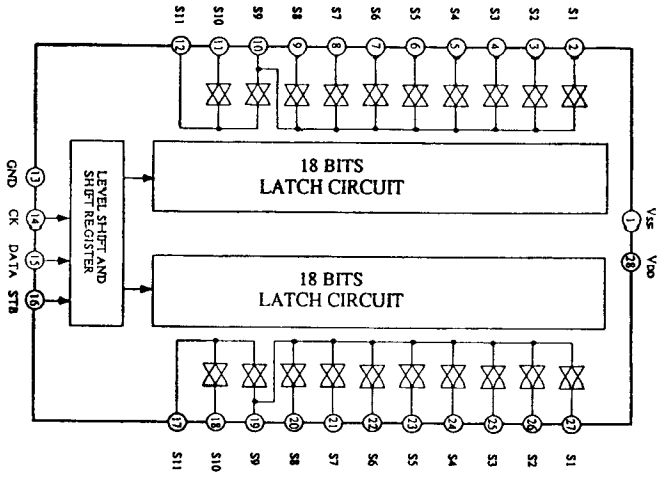


No.	Terminal	Description	No.	Terminal	Description
1	Vcc	Supply voltage for the digital circuit	13	GND	Ground for the analog circuit
2	OSC IN	Resonator input	14	INTEG	Integrating filter terminal
3	OSC OUT	Resonator output	15	BPF ADJ	Adjustment fc of band pass filter
4	GND	Ground for the digital circuit	16	PSK OUT	Biphase signal output
5	TEST1	Test input	17	PSK IN	Biphase decoder input
6	TEST2	Test input	18	LPF SK	Low pass filter for the detection SK
7	OP.CTL	Control input of the operation stop	19	LPF Q	Low pass filter for the crossed detector
8	S/L CTL	Mode control input of the synchonizing detection	20	LPF I	Low pass filter for the synchronizing detector
9	SK OUT	SK detection output	21	DSB IN	DSB demodulator circuit input
10	RDS OUT	RDS synchonizing detection output	22	BPF OUT	Band pass filter output
11	CLOCK OUT	Bit rate clock output	23	BPF IN	Band pass filter input
12	DATA OUT	RDS data output	24	Vcc	Supply voltage for analog circuit

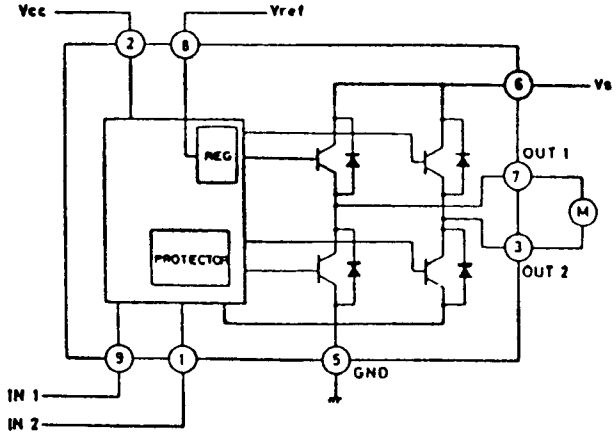
LC4966 (Analog Switch)



TC9273N-010 (Analog Switch)



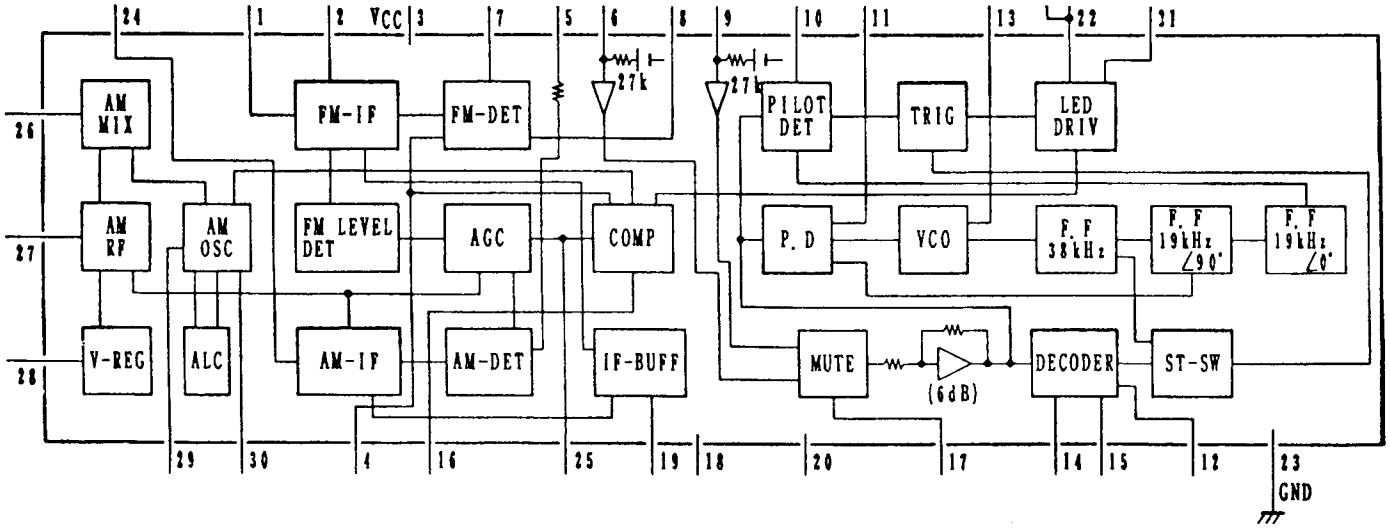
TA7291S (Volume driver)



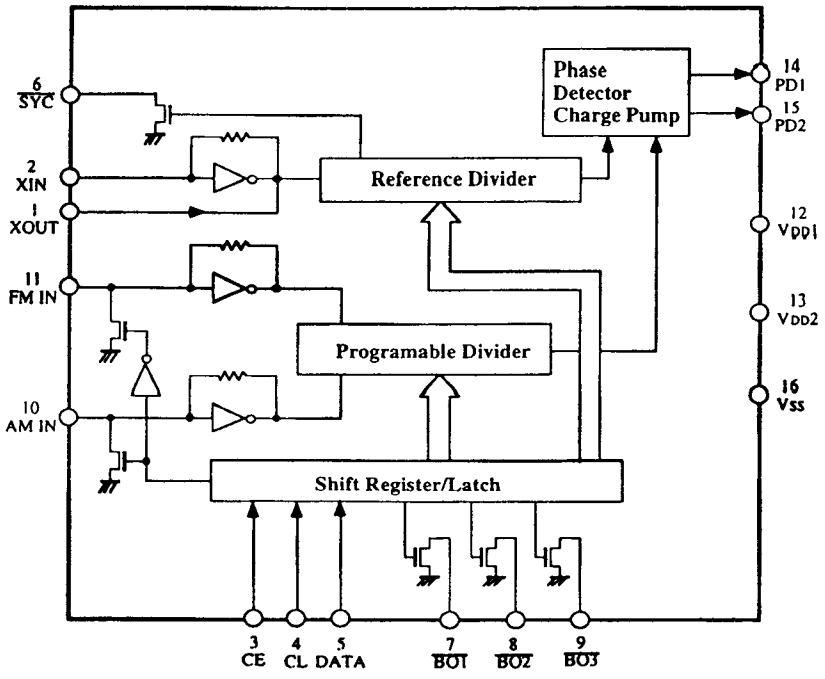
INPUT		OUTPUT		MODE
IN 1	IN 2	OUT 1	OUT 2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

CCW: Counter clockwise direction
CW: Clockwise direction

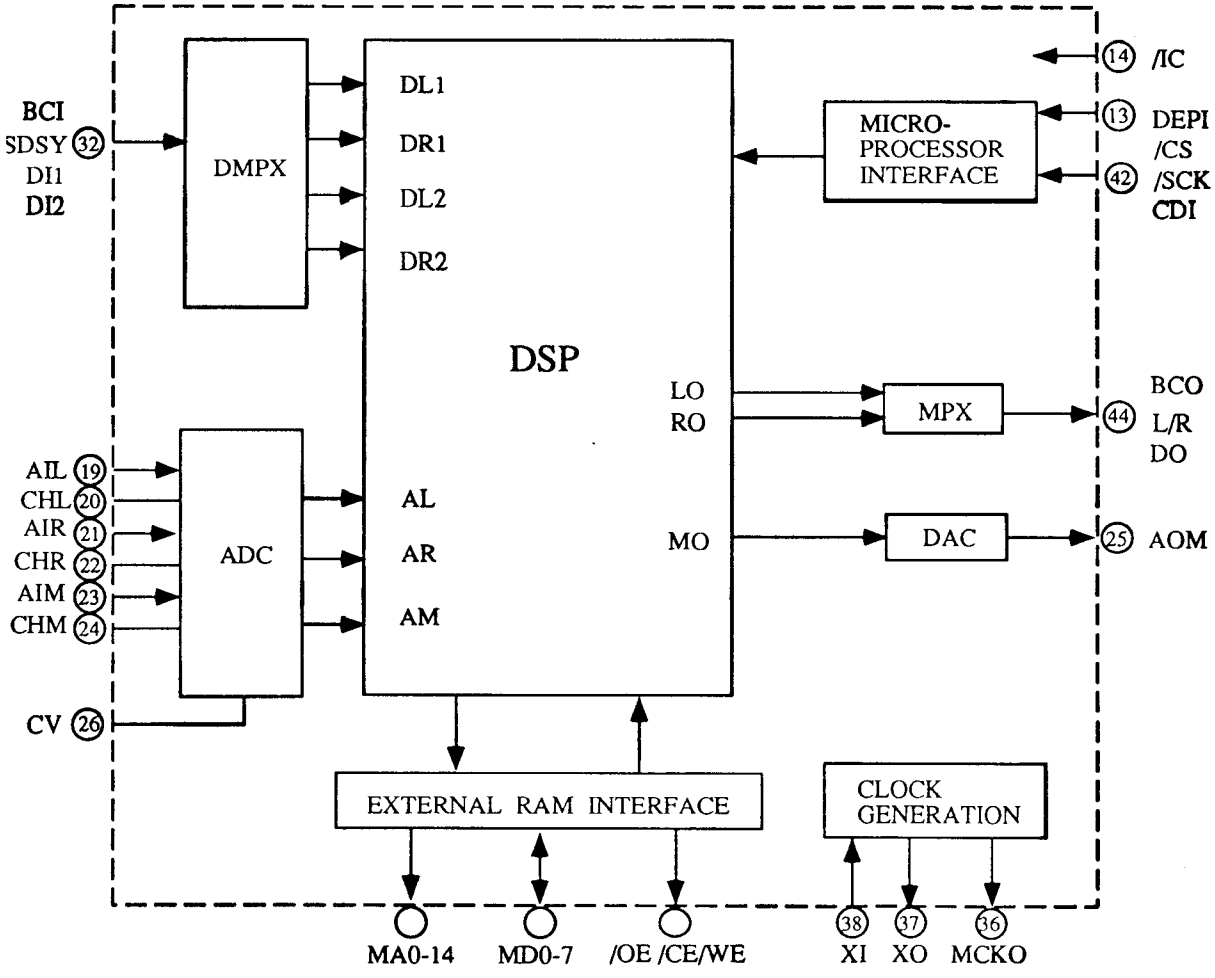
LA1851N (AM, FM IF and MPX)



LM7001 (PLL Frequency Synthesized IC)



YSS240-F (Karaoke Decoder)



ADJUSTMENT PROCEDURES

Preparation

1. Input

FM mono: 1kHz, 75kHz devi., 60dB/μ V

FM stereo: 1kHz, 67.5kHz devi., 60dB/μ V

Pilot signal 19kHz 7.5kHz devi.

AM: 400Hz, 30% mod.

2. Outputs

Connect the non-inductive type resistor of 8 ohms to the all speaker terminals unless otherwise noted.

1.FM ADJUSTMENT

Item	Step	Connection of instrument	FM SG output	Stereo modulator output	Tuning frequency	Output indicator	Adjustment point	Adjust for	Remarks
FM IF/RF	1	Fig.1	99.0MHz 1kHz 75kHz devi. 65dBf(60dB)	——	99.0MHz	DC voltmeter	L101	0±20mV	FM MUTE/MODE switch:ON/AUTO Repeat the steps 1 and 3 until no further adjustment is necessary.
	2					AC voltmeter	IFT on the front end	Maximum	
	3					Distortion analyzer	L102	Minimum	
Stereo Distortion		Fig.2	99.0MHz Ext. mod.65dBf(60dB)	Channel L or R 1kHz	99.0MHz	Distortion analyzer	IFT on the front end	Minimum	FM MUTE/MODE switch:ON/AUTO Don't tum more than ±180°
Stereo Separation		Fig.2	99.0MHz Ext. mod.65dBf(60dB)	Channel L or R 1kHz	99.0MHz	Oscilloscope	R150	Maximum separation	
Muting Level		Fig.1	99.0MHz 19.2dBf(14dB)	——	99.0MHz	Oscilloscope	R158	Signal output	
RDS		Fig.3	99.0MHz Ext. mod.60dB	RDS data or 57kHz 3% devi.	99.0MHz	Oscilloscope	R798	Maximum	European model only

2.AM ADJUSTMENT

120V model

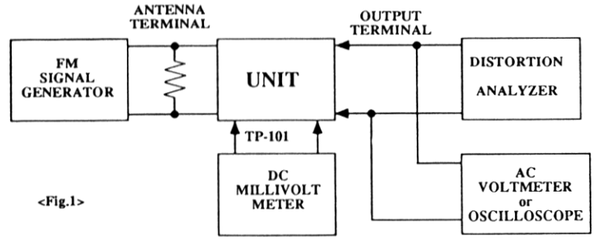
Step	AM SG output	Tuning Frequency	Output Indicator	Adjustment point	Adjust for
1		530kHz	Digital DC voltmeter	OSC coil on RF block L105	1.3±0.2V
2	600kHz 400Hz 30% mod. 60dB/m	600kHz	AC voltmeter	RF coil on RF block L105	Maximum
3	990kHz 400Hz 30% mod. 60dB/m	990kHz	AC voltmeter	L106	Maximum

Reference Specification
FM tuned voltage:87.50MHz~108.00MHz
More than 1.2V~Less than 10V
AM tuned voltage:530kHz~1710kHz
1.3±0.2~Less than 9.0V

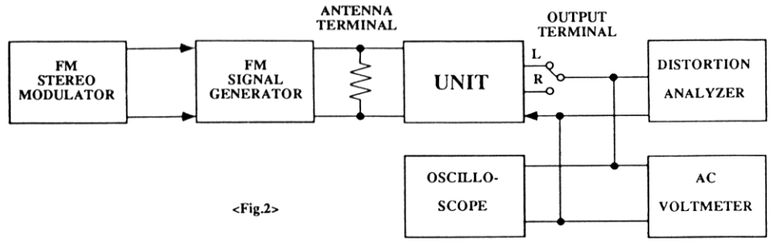
230V and Wolrdwide models

Step	AM SG output	Tuning Frequency	Output Indicator	Adjustment point	Adjust for
1		522kHz or 531kHz	Digital DC voltmeter	OSC coil on RF block L105	1.3±0.2V
2	603kHz 400Hz 30% mod. 60dB/m	603kHz	AC voltmeter	RF coil on RF block L105	Maximum
3	999kHz 400Hz 30% mod. 60dB/m	999kHz	AC voltmeter	L106	Maximum

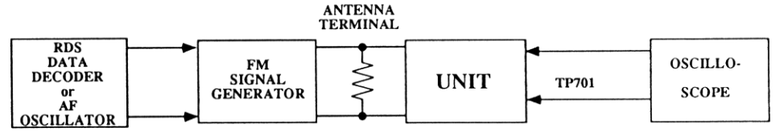
Reference Specification
FM tuned voltage:87.50MHz~108.00MHz
More than 1.2V~Less than 10V
AM tuned voltage:522kHz~1611kHz
1.3±0.2~Less than 9.0V
(230V model)
AM tuned voltage:531kHz~1602kHz
1.3±0.2~Less than 9.0V
(Worldwide model)



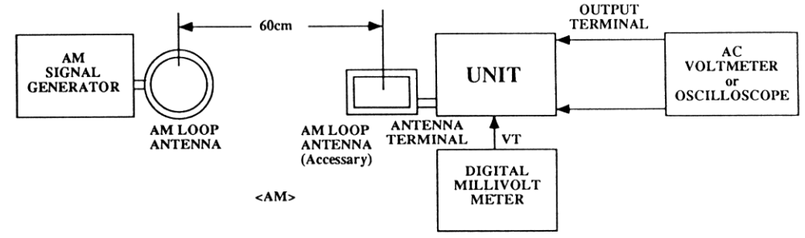
<Fig.1>



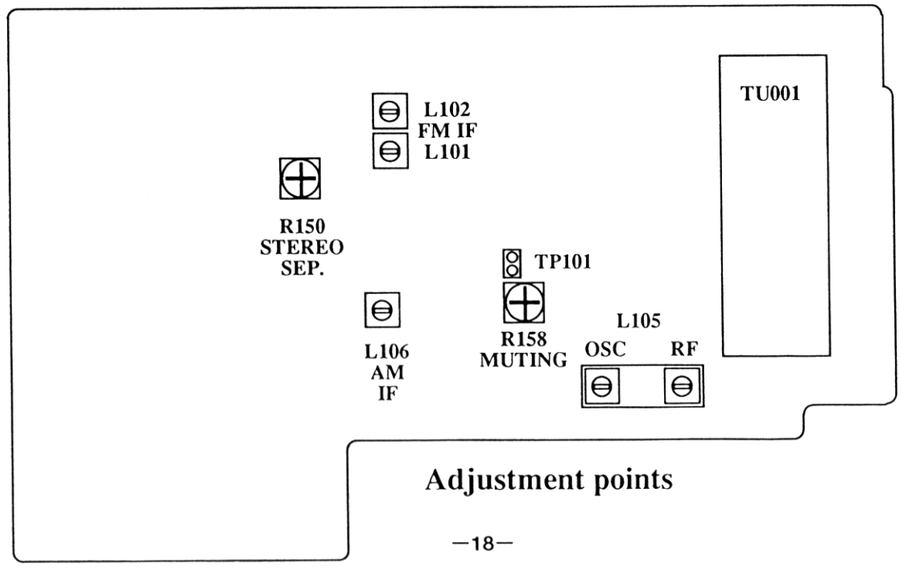
<Fig.2>



<Fig.3>



<AM>

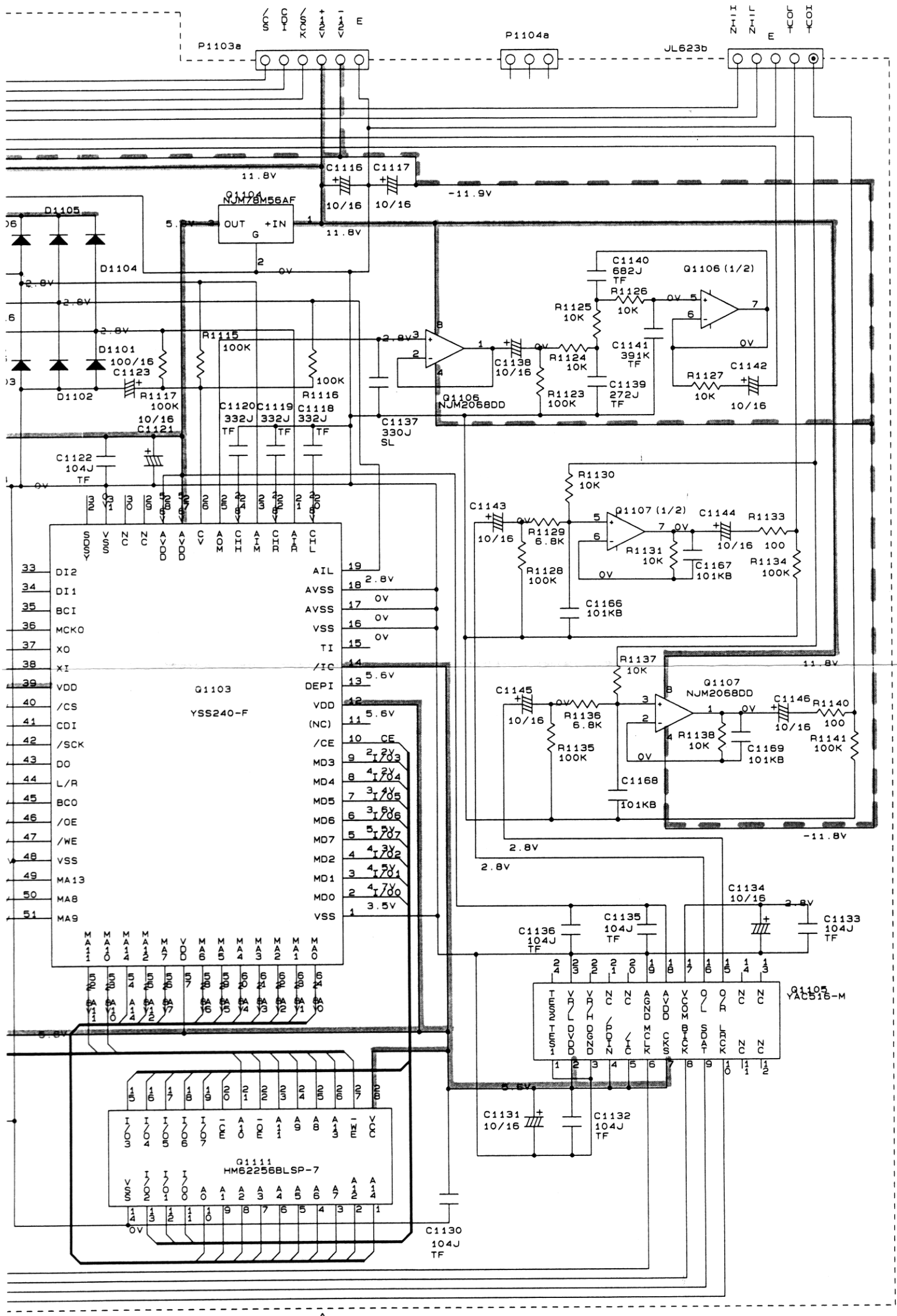


Adjustment points

SCHEMATIC DIAGRAM

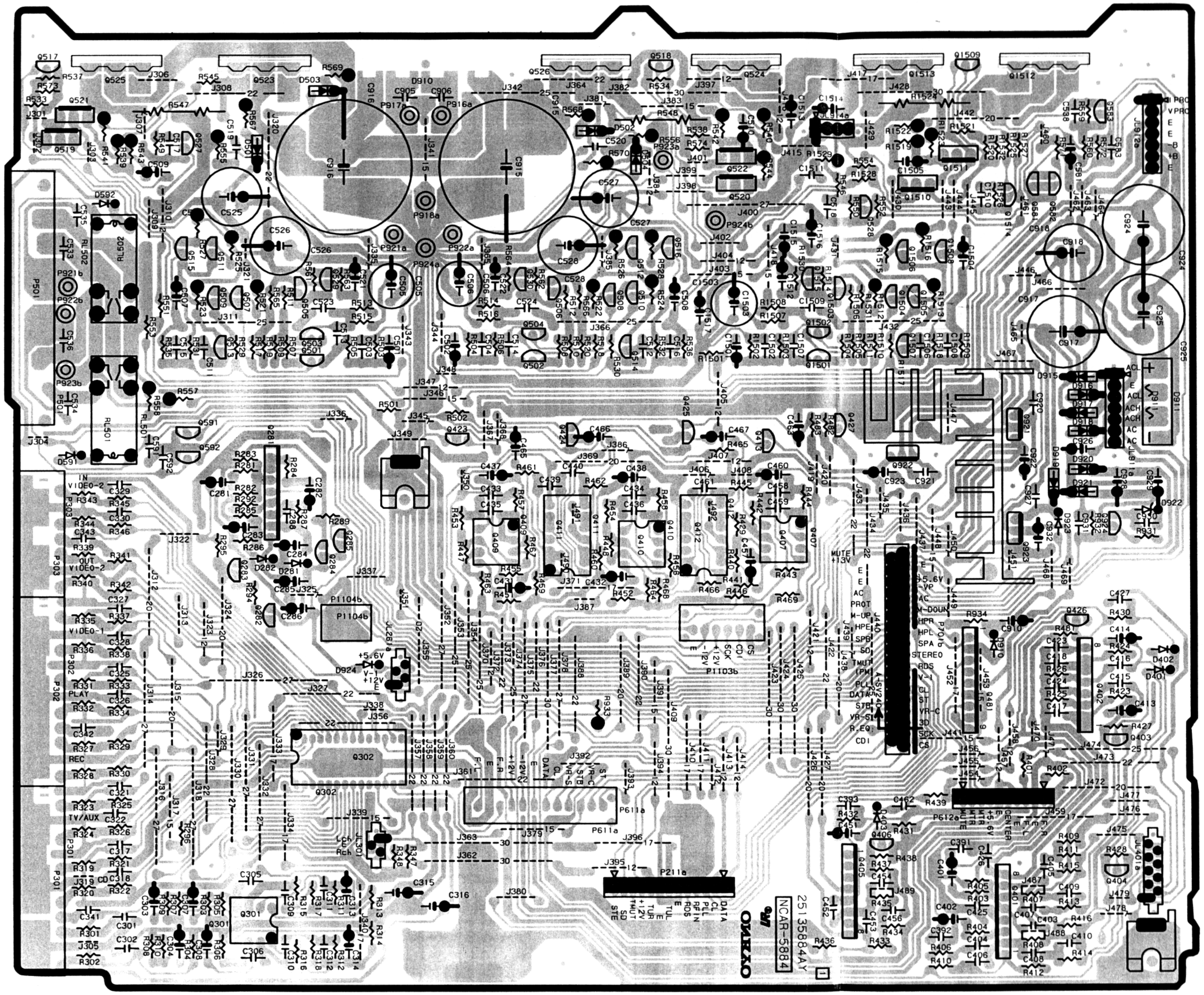
TX-SE500

D E F G

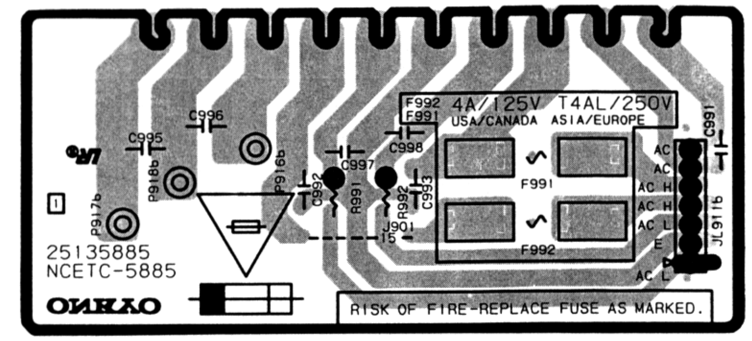


- THE COMPONENTS INDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) ⟨ ⟩ IS DC VOLTAGE. (NO INPUT SIGNAL)
- ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS (⊣+) ARE IN uF/V.
- ALL CAPACITORS ARE IN pF/50V UNLESS OTHERWISE NOTED.
  EX) 3pF → 030. 33pF → 330. 330p → 331. 0.033uF → 333.
- ALL RESISTORS ARE IN OHMS 1/6WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
  EX) ▭ ← PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT

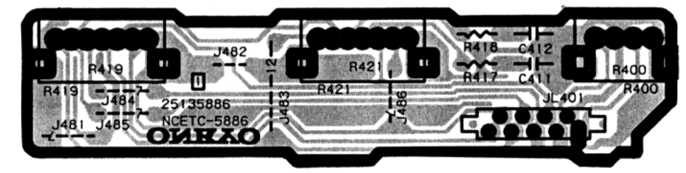
PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE



MAIN CIRCUIT PC BOARD



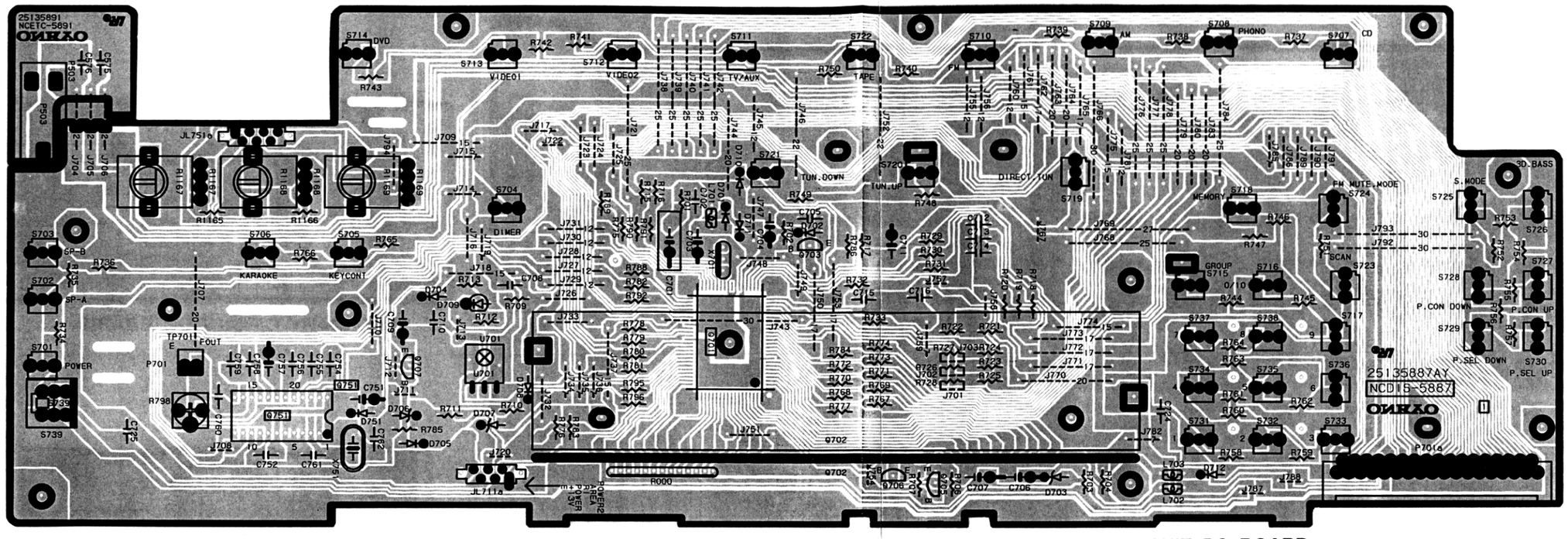
SECONDARY CIRCUIT PC BOARD



TONE CONTROL CIRCUIT PC BOARD

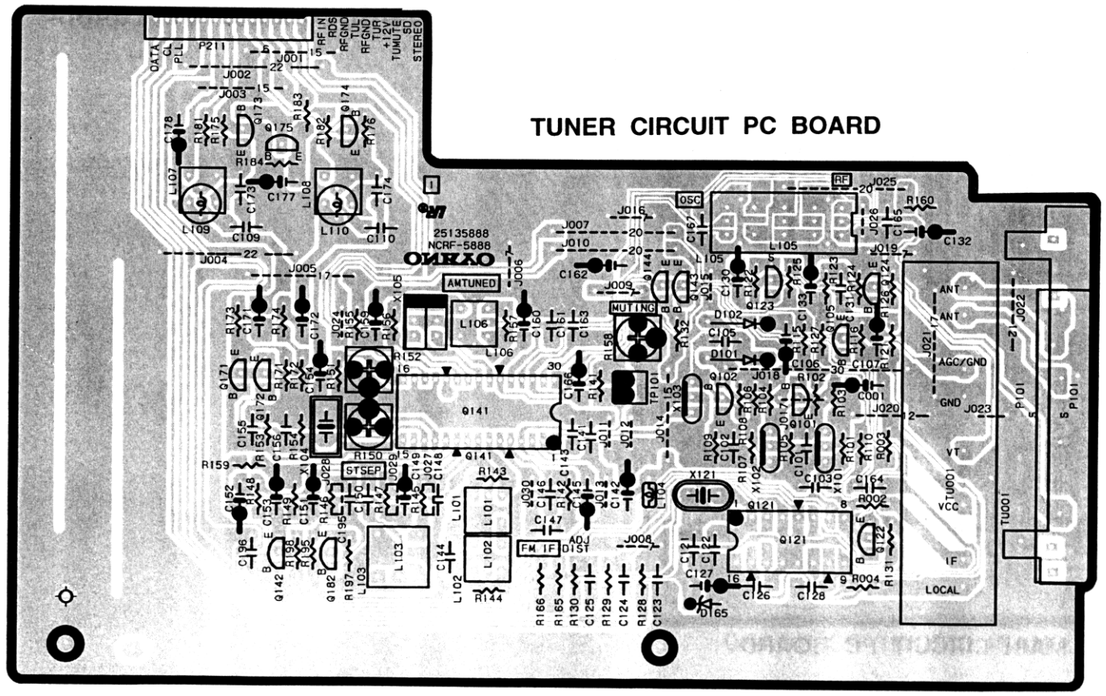
TX-SV444
TX-SE500

HEADPHONE TERMINAL PC BOARD

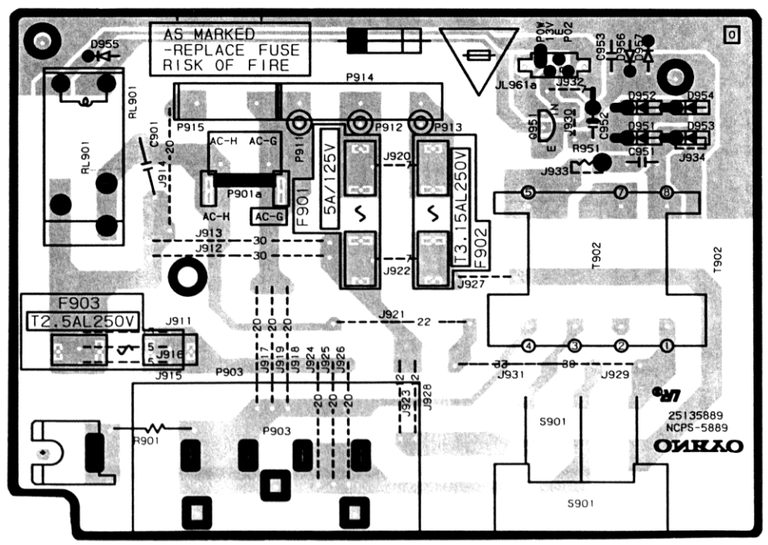


DISPLAY CIRCUIT PC BOARD

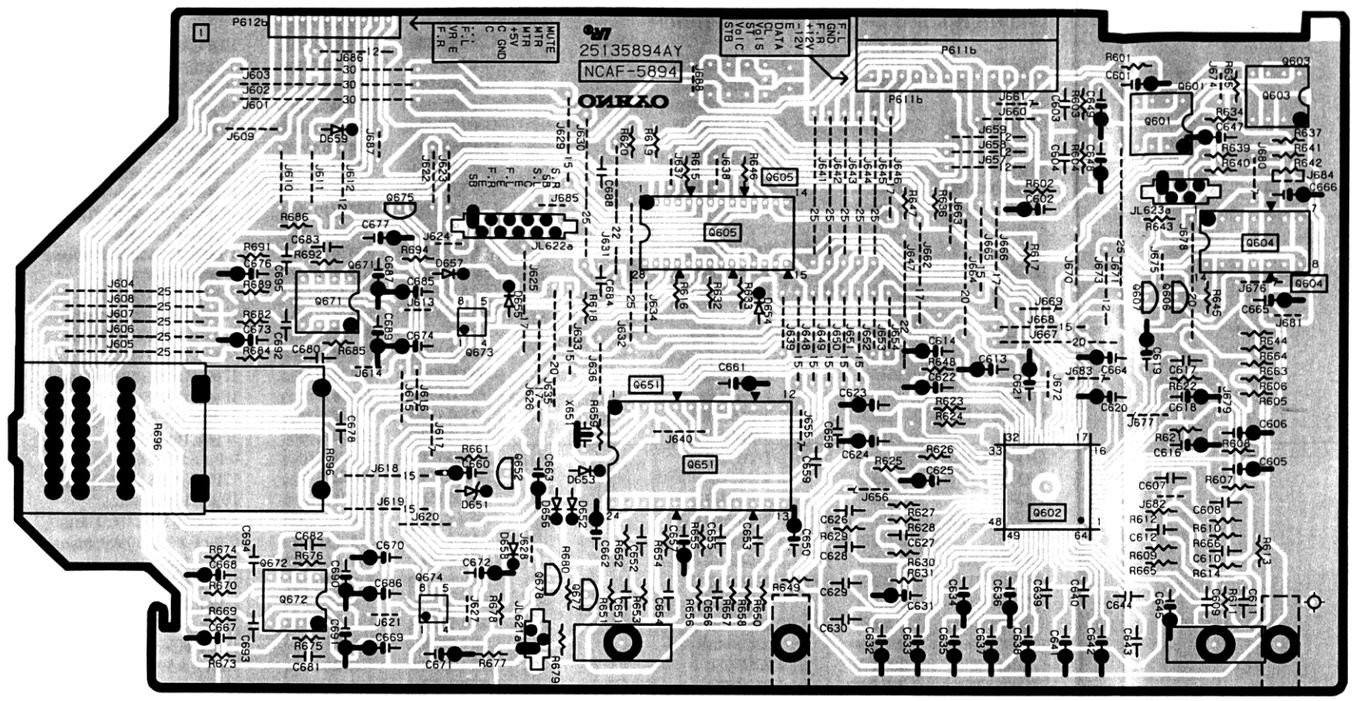
TUNER CIRCUIT PC BOARD



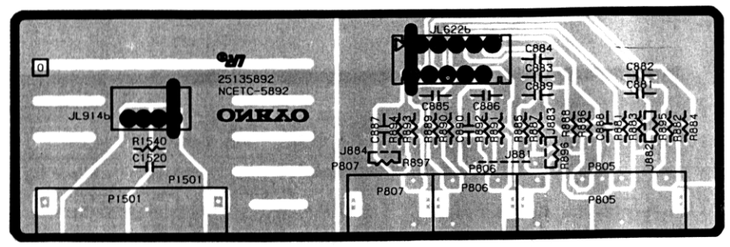
POWER SUPPLY CIRCUIT PC BOARD



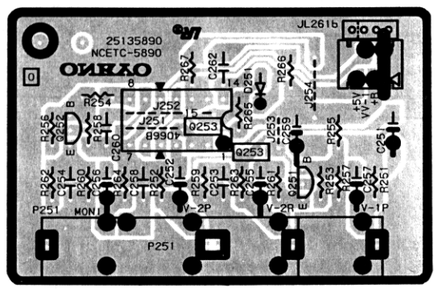
PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE



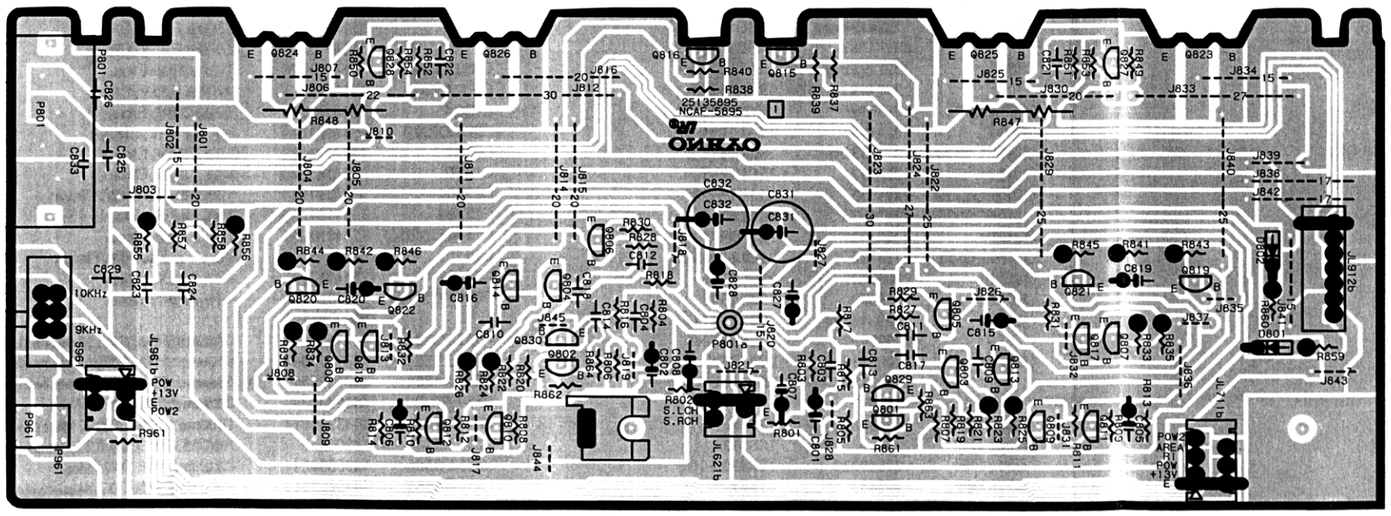
VOLUME CIRCUIT PC BOARD



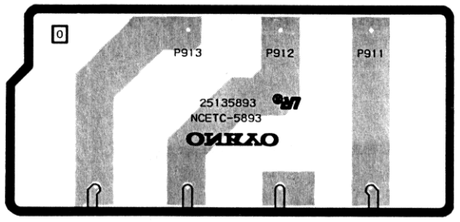
VIDEO TERMINAL PC BOARD



VIDEO TERMINAL PC BOARD

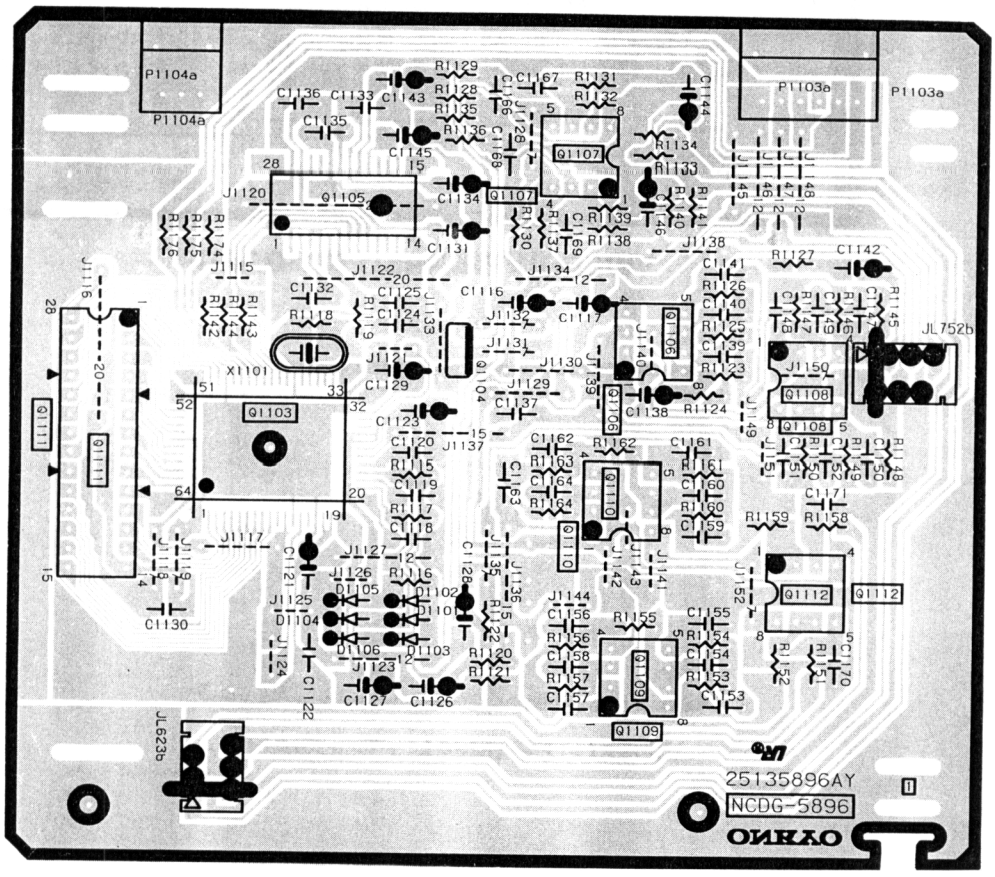


REAR AMPLIFIER PC BOARD

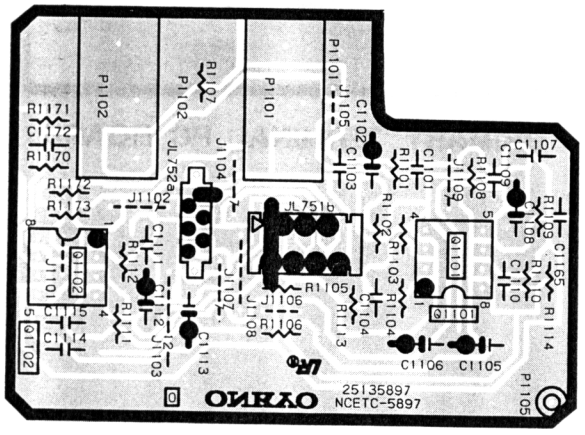


PRIMARY TERMINAL PC BOARD

MODEL TX-SE500 ONLY



DIGITAL CIRCUIT PC BOARD



MIC. TERMINAL PC BOARD

NOTE: <D>:120V model only
<P>:230V model only
<W>:Worldwide model only

CIRCUIT BOARD-PARTS LIST

CAUTION: Replacement for transistor of mark *, if necessary, must be made from the same beta group (HFE) as the original type.

MAIN CIRCUIT PC BOARD (NAAR-5884-1A/1B/2)

CIRCUIT NO.	PART NO.		DESCRIPTION
	ICs		
Q281	22240293		NJM4558L-D
Q301	222502		NJM4558D-X
Q302	22240881		TC9273N-010
Q401,Q402	22240250		NJM2068L-D
Q405	22240250		NJM2068L-D
Q407	222956		NJM2068D-D
Q409,Q410	222956		NJM2068D-D
Q411,Q412	22240025		LC4966
Q481	22240239		TA7291S
Q921	222780125NEC		MPC78M12AHF
Q922	222790125		79M12HF
Q923	222780565JRC		NJM78M56FA
	Transistors		
Q282	2212600		DTA124ES
Q283	2213816		2SD1450-T
Q284	2213160		DTC124ES
Q285	2215240		DTA114TS
Q403,Q404	2211945		2SK246-GR
Q406	2211945		2SK246-GR
Q413,Q426	2213090		DTA114YS
Q423~Q425	2213631		RN1241-A
Q427	2213510		DTA114ES
Q501~Q506	2211733 or	*	2SC1845-E or
	2211732	*	2SC1845-F
Q507~Q510	2211353		2SA949-O
Q511,Q512	2211633		2SC2229-O
Q513,Q514	2211353		2SA949-O
Q515,Q516	2211633		2SC2229-O
Q517,Q518	2213284		2SC1740S-R
Q519,Q520	2203010		2SC5171
Q521,Q522	2203000		2SA1930
Q523,Q524	2202843 or	*	2SC5242-O or
	2202842	*	2SC5242-R
Q525,Q526	2202833 or	*	2SA1962-O or
	2202832	*	2SA1962-R
Q527,Q528	2211733 or		2SC1845-E or
	2211732		2SC1845-F
Q529,Q530	2213284		2SC1740S-R
Q581,Q582	2211733 or		2SC1845-E or
	2211732		2SC1845-F
Q583	2211792 or		2SA992-F or
	2211793		2SA992-E
Q591,Q592	2213640		DTC123JS
Q924	2211455		2SA1015-GR
Q1501~Q1503	2211733 or	*	2SC1845-E or
Q1514	2211732	*	2SC1845-F
Q1504,Q1505	2211353		2SA949-O
Q1506,Q1508	2211633		2SC2229-O
Q1507	2211353		2SA949-O
Q1509,Q1515	2213284		2SC1740S-R
Q1510	2203010		2SC5171
Q1511	2203000		2SA1930
Q1512	2202843 or	*	2SC5242-O or
	2202842	*	2SC5242-R
Q1513	2202833 or	*	2SA1962-O or
	2202832	*	2SA1962-R
	Diodes		
D281,D282	223163		1SS133
D401~D403	223163		1SS133
D501~D504	22380032		1SR139-100
D591,D592	223163		1SS133
D910	223163		1SS133
D911	22380021	⚠	RS403L
D915~D921	22380032	⚠	1SR139-100
D922	224473304		MTZJ33D
D923,D924	223163		1SS133

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C281~C283	354741009	10μF,16V, Elect.
C284	354780229	2.2μF,50V, Elect.
C285,C286	354741009	10μF,16V, Elect.
C303,C304	354741009	10μF,16V, Elect.
C307,C308	354721019	100μF,6.3V, Elect.
C309,C310	374726224	6200pF±5%, 50V, Plastic
C311,C312	374721824	1800pF±5%, 50V, Plastic
C313~C316	354741009	10μF,16V, Elect.
C391~C393	374721015	100pF±10%, 50V, Plastic
C401,C402	354741009	10μF,16V, Elect.
C407^C410	374721044	0.1μF±5%, 50V, Plastic
C413,C414	354741009	10μF,16V, Elect.
C415,C416	374721534	0.015μF±5%, 50V, Plastic
C417,C418	374721015	100pF±10%, 50V, Plastic
C427	374721044	0.1μF±5%, 50V, Plastic
C431,C432	354741009	10μF,16V, Elect.
C433~C436	374721224	1200pF±5%, 50V, Plastic
C437,C438	354741009	10μF,16V, Elect.
C439,C440	374722224	2200pF±5%, 50V, Plastic
C451,C457	354741009	10μF,16V, Elect.
C454,C456	374721044	0.1μF±5%, 50V, Plastic
C458,C459	374721224	1200pF±5%, 50V, Plastic
C460,C463	354741009	10μF,16V, Elect.
C461	374722224	2200pF±5%, 50V, Plastic
C462	374721044	0.1μF±5%, 50V, Plastic
C465~C467	354741009	10μF,16V, Elect.
C501,C502	354741009	10μF,16V, Elect.
C503,C504	374721015	100pF±10%, 50V, Plastic
C505,C506	354742219	220μF,16V, Elect.
C507~C510	354781009	10μF,50V, Elect.
C519,C520	374721044	0.1μF±5%, 50V, Plastic
C521,C522	354744709	47μF,16V, Elect.
C525~C528	354774719	470μF,63V, Elect.
C581	354721019	100μF,6.3V, Elect.
C910	354732219	220μF,10V, Elect.
C915,C916	3504280 or	8200μF,56V or
	3504298	8200μF,56V, Elect. <D>
C915,C916	3504285 or	10000μF,56V or
	3504299	10000μF,56V, Elect. <P/W/A/T/K>
C917	354753329	3300μF,25V, Elect.
C918	354761029	1000μF,35V, Elect.
C922,C923	354781009	10μF,50V, Elect.
C924,C925	3504213	4700μF,35V, Elect.
C926	354781009	10μF,50V, Elect.
C928,C929	354781019	100μF,50V, Elect.
C932	354741009	10μF,16V, Elect.
C1501	354742209	22μF,16V, Elect.
C1502	374721015	100pF±10%, 50V, Plastic
C1503	354741019	100μF,16V, Elect.
C1504,C1505	354781009	10μF,50V, Elect.
C1511	374721044	0.1μF±5%, 50V, Plastic
C1512	354744709	47μF,16V, Elect.
C1513~C1517	354781009	10μF,50V, Elect.
	Resistors	
R521~R524	443526804	68ohm±5%, 1/2W, Metal oxide
R525,R526	443525604	56ohm±5%, 1/2W, Metal oxide
R527,R528	443526804	⚠ 68ohm±5%, 1/2W, Metal oxide
R539~R542	453530224	2.2ohm±5%, 1/2W, Metal
R543,R544	443521014	100ohm±5%, 1/2W, Metal oxide
R547,R548	4800045	RGC55, 0.1 OHM X2, Metal plate
R555,R556	453630824	8.2ohm±5%, 1W, Metal
R557,R558	443623914	390ohm±5%, 1W, Metal oxide
R567~R570	453530224	2.2ohm±5%, 1/2W, Metal
R933	443524704	47ohm±5%, 1/2W, Metal oxide
R1512,R1513	443526804	68ohm±5%, 1/2W, Metal oxide
R1515	443525604	56ohm±5%, 1/2W, Metal oxide
R1516	443526804	⚠ 68ohm±5%, 1/2W, Metal oxide

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R1519	443521014	100ohm±5%, 1/2W, Metal oxide
R1522,R1523	453530224	2.2ohm±5%, 1/2W, Metal
R1524	4800045	RGC55, 0.1 Ohm X2, Metal plate
R1529	453630824	8.2ohm±5%, 1W, Metal
	Relay	
RL501,RL502	25065517	NRL-2P5A-DC24-098
	Terminals	
P301,P302	25045458 or	NPJ-6PDBL279 or
	25045300	NPJ-6PDBL159
P303	25045460Y or	NPJ-4PDBL280 or
	25045303Y	NPJ-4PDBL162
P501	25060224Y or	NTM-8PDML146 or
	25060158Y	NTM-8PDML084
	Plugs	
P211a	25055709	NPLG-13P665
P612a	25055706Y	NPLG-10P662
	Sockets	
P611a	25051752Y	NSCT-12P1539
P701b	25050975Y or	NSCT-35P762
	25051842	NSCT-35P1629
JL261a	25051088	NSCT-4P875
JL401a	25051093	NSCT-9P880
JL911a,JL912a	25051111	NSCT-7P898
JL914a	25051108	NSCT-4P895
P1103b	25051751Y	NSCT-6P1538 <SE>
P1104b	25051753Y	NSCT-3P1540 <SE>
	Radiators	
Q921a	27160209	RAD-67
Q922a	27160227	RAD-076
	Screws	
Q921b,Q922b	838430107	3TTB+10S(BC), Self-tapping

SECONDARY CIRCUIT PC BOARD (NAETC-5885-1A/1B/2)

CIRCUIT NO.	PART NO.	DESCRIPTION
F991a,F992a	25050065	⚠ YSH403T, Fuseholder
F991,F992	252077	⚠ 4A-SE-EAK, Fuse <P/A/T/K/W>
F991,F992	252163Y	⚠ 4A-UL/T-237, Fuse <D>
JL911b	25051111	NSCT-7P898, Socket
C992,C993	374721044	0.1 μ F±5%, 50V, Plastic capacitor
C995,C996	374731044	0.1 μ F±5%, 50V, Plastic capacitor
C997,C998	374721044	0.1 μ F±5%, 50V, Plastic capacitor
R991,R992	453530224	2.2ohm±5%, 1/2W, Metal resistor

TONE CONTROL CIRCUIT PC BOARD (NAETC-5886-1A/1B/2)

CIRCUIT NO.	PART NO.	DESCRIPTION
R400	5104288	N11RCL250KWT20Z, Variable resistor
R419,R421	5104356	N14RLC100KWT20Z, Variable resistor
JL401b	25051093	NSCT-9P880, Wire holder
C411,C412	**374721534**	**0.015 μ F±5%, 50V, Plastic capacitor**

DISPALY CIRCUIT PC BOARD (NADIS-5887-1A/1B/1C/1D/1E/1F/2A/2B/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Remote sensor	
U701	24130011	PIC-12043TE2, Remote sensor
	FL tube	
Q702	212156	12-BT-101GK
	ICs	
Q701	**22241059**	μ PD78043FGF-018
Q751	22240679	μ PC1346CS <P>
	Transistors	
Q703	221282	DTC144ES
Q705,Q706	2213284	2SC1740S-R
Q707	2213510	DTA114ES
	Diodes	
D701D702	223163	1SS133
D703	**224471203**	MTZJ12C, Zener
D704,D705	223163	1SS133
D706,D707	224470562	MTZJ5.6B, Zener
D708	**223163**	1SS133
D709	**225290**	SEL4110R, LED
D710~D712	**223163**	1SS133
D751	**223163**	1SS133 <P>
	Coils	
L701~L703	**233454K220**	**NCH-1452, 220K, Choke**
	Resonators	
X701	3010163	CST4.19MGW, Ceramic
X751	3010203	AF6146CG, Crystal <P>
	Capacitors	
C701	3000075	EECS5R5T473, Super
C702	375524744	0.47 μ F±5%, 50V, Plastic
C703	355721019	100 μ F,6.3V, Elect.
C704	355780109	1 μ F,50V, Elect.
C706,C707	355780109	1 μ F,50V, Elect.
C709,C711	355721019	100 μ F,6.3V, Elect.
C751	354721019	100 μ F,6.3V, Elect. <P>
C754,C760	374724724	4700pF±5%, 50V, Plastic <P>
C755,C756	374723324	3300pF±5%, 50V, Plastic <P>
C757	354780229	2.2 μ F,50V, Elect. <P>
C758	374724734	0.047 μ F±5%, 50V, Plastic <P>
C759	374722234	0.022 μ F±5%, 50V, Plastic <P>
	Resistors	
R798	5210265	N06HR50KBC, Trimming <P>
R1167~R1169	5104393Y	N11RL10KB17Z, Variable <SE>
	Switches	
S701	25035652	NPS-111-S604, Push <D>
S702~S704	25035652	NPS-111-S604, Push
S705,S706	25035652	NPS-111-S604, Push <SE>
S707~S738	25035652	NPS-111-S604, Push
S739	25035653	NPS-122-L605, Push <P/W/T/A/K>
	Sockets and Holder	
JL711a	25051090	NSCT-6P877 or
JL711a	25051879	NSCT-35P1666
P701	25055038	NPLG-2P29 <P>
P701a	25050941Y or	NSCT-35P728 or
	25051842Y	NSCT-35P1269
JL751a	25051091	NSCT-7P878 <SE>
	Holder	
Q702a	27190989	Holder FL

TUNER CIRCUIT PC BOARD (NARF-5888-1A/1B/1C/1D/1E/1F/2A/2B/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Front end	
TU001	240098	ENV172D1G1, Front end <D>
TU001	**240102**	FE417-G02, Front end <P/W/T/A/K
	ICs	
Q121	22240090	LM7001
Q141	22240983	LA1851N-F
	Transistors	
Q101	2210746	2SC945A-P <P/W/T/A/K>
Q102	2211723	2SC1923-O
Q122,Q142	2213510 or	DTA114ES or
Q175	2214350	RN2202
Q123	2212445	2SK365-GR
Q124	2212115 or	2SC2458-GR or
Q171,Q172	2213284	2SC1740S-R
Q143	221282	DTC144ES
Q144	**2213640**	DTC123JS
Q173,Q174	2212794	2SD1468-R
Q182	2212115 or	2SC2458-GR or
	2213284	2SC1740S-R <P>
	Diode	
D165	**224470512**	MTZJ5.1B, Zener

NOTE:THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Coils and transformers	
L101	233457	NFIF-4081, IF Transformer
L102	233458	NFIF-4082, IF Transformer
L103	233471	NMC-6084 <P/W/T/A/K>
L104	233454K220	NCH-1452, 220K, Choke coil
L105	232174	NMRF-5077, RF block
L106	232139	NMIF-4062, IF transformer
L107,L108	233484	NMC-4085 <P/W/T/A/K>
L109,L110	231092	NCH-2140, Choke coil <D>
	Capacitors	
C001	354741019	100 μ F,16V, Elect.
C109,C110	374722724	2700pF±5%, 50V, Plastic <P/W/T/A/K>
C127	354721019	100 μ F,6.3V, Elect.
C130	354780229	2.2 μ F,50V, Elect.
C131	374722234	0.022 μ F±5%, 50V, Plastic
C132,C153	354783399	0.33 μ F,50V, Elect.
C133,C142	354741019	100 μ F,16V, Elect.
C145,C154	354741009	10 μ F,16V, Elect.
C146	374723324	3300pF±5%, 50V, Plastic
C147	374721034	0.01 μ F±5%, 50V, Plastic <P/W/T/A/K>
	374721534	0.015 μ F±5%, 50V, Plastic <D>
C149	354780479	4.7 μ F,50V, Elect.
C151,C152	354780109	1 μ F,50V, Elect.
C155,C156	374721034	0.01 μ F±5%, 50V, Plastic <D>
	374724724	4700pF±5%, 50V, Plastic <P/T/A/K>
	374725624	5600pF±5%, 50V, Plastic <W>
C159,C177	354780229	2.2 μ F,50V, Elect.
C160	354784799	0.47 μ F,50V, Elect.
C162,C166	354741009	10 μ F,16V, Elect.
C171,C172	354741009	10 μ F,16V, Elect.
C173,C174	374721024	1000pF±5%, 50V, Plastic <D>
C178	354741009	10 μ F,16V, Elect.
	Oscillators	
X104	3010268	CSB456F23, Ceramic
X121	3010141	XTL-7.2M, Crystal
	Ceramic filters	
X101,X103	3010071	SFE10.7MA5(RED)
X102	3010130	SFE10.7MZ2A <P/W/T/A/K>
X105	3010123	SFZ-450JL
	Resistors	
R150	5210261	N06HR5KBC, Trimming
R158	5210264	N06HR30KBC, Trimming
	Terminals	
P101	25060117	NTM-2PDML051 or
	25060222	NTM-2PDML144 <P/W/T/A/K>
	25060195	NTM-4PDML117 or
	25060239	NTM-4PDML161 <D>
	Plug	
TP101	25055038Y	NPLG-2P29
	Socket	
P211b	25051238	NSCT-13P1028

POWER SUPPLY CIRCUIT PC BOARD (NAPS-5889-1A/1B/1C/1D/1E/1F/2A/2B/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q951	2213640	DTC123JS
	Diodes	
D951,D953	22380032	1SR139-100 <P/W/T/A/K>
D952	22380032	1SR139-100
D954	22380032	1SR139-100 <P/W/T/A/K>
D955	223163	1SS133
	Power transformer	
T902	2300670AY or	⚠ NPT-1111D or
	2301258Y	⚠ NPT-1294D, Power transformer <D>
	2300671A	⚠ NPT-1111P, Power transformer <P/T/A>
	2300672AY	⚠ NPT-1111DG, Power transformer <W/K>

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C901	3500191	⚠ DE7150F-103M, AC400V/125V, IS
C952	354743319	330 μ F,16V, Elect.
	Fuseholders	
F901a	25050065	⚠ YSH403T, Fuseholder <D/W>
F902a	25050065	⚠ YSH403T, Fuseholder <P/T/A/K>
F903a	25050065	⚠ YSH403T, Fuseholder <P/T>
	Fuses	
F901	252164Y	⚠ 5A-UL/T-237, Fuse <D/W>
F902	252076	⚠ 3.15A-SE-EAK, Fuse <P/A/T/K/W>
F903	252075	⚠ 2.5A-SE-EAK, Fuse <P/T>
	Holder	
JL961a	25051088	NSCT-4P875, Wire
P901a	25055675Y	NPLG-2P631, Plug
	Terminal	
P902	25051126Y	⚠ NSCT-4P913, AC outlet <D>
P903	25051125Y	⚠ NSCT-4P912, AC outlet <P/W/T>
	Resistors	
R901	431533355	⚠ 3.3 Mohm,1/2W, Solid <D>
R951	453530824	8.2ohm±5%, 1/2W, Metal <P/W/T/A/K>
	Relay	
RL901	25065515	⚠ NRL-1P5A-DC12-096
	Switch	
S901	25065437	⚠ NSS-22157P, Slide <W>

VIDEO TERMINAL PC BOARD (NAETC-5890-1A/1B/1C/1D/1E/1F/2A/2B/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
Q253	222840661	4066B,IC
Q251,Q252	2213284	2SC1740S-R, Transistor
D251	223163	1SS133, Diode
C251,C252	354721019	100 μ F,6.3V, Elect. capacitor
C255,C256	354724719	470 μ F,6.3V, Elect. capacitor
C257	354721019	100 μ F,6.3V, Elect. capacitor
C259	354741019	100 μ F,16V, Elect. capacitor
JL261b	25055625	NPLG-4P587, Wire trap
P251	25045339	NPJ-4PDYE190, Terminal

HEADPHONE TERMINAL PC BOARD (NAETC-5891-1A/1B/1C/1D/1E/1F/2A/2B/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
P503	25045255Y	YKB21-5009, Headphone

VIDEO TERMINAL PC BOARD (NAETC-5892-1A/1B/1C/1D/1E/1F/2A/2B/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
JL914b	25050281	NSCT-4P109, Wire trap
JL622b	25055631	NPLG-10P593, Wire trap
P1501	25060114	NTM-2PDMNL048, Terminal
P805	25045460Y	NPJ-4PDBL281, Terminal
P806	25045456Y	NPJ-2PDBL277, Terminal
P807	25045459Y or	NPJ-1PDBL280 or
	25045302Y	NPJ-1PDBL161, Terminal

VOLUME CIRCUIT PC BOARD (NAAF-5894-1A/1B/1C/2/2A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q601,Q603	222502	NJM4558D-X
Q602	22241053	NJW1102AF
Q604	222840661	4066B <SE>
Q605	22240800	TC9164AN
Q651	22240995 or	NJU9702D or
	22240686	M65830P
Q671,Q672	222956	NJM2068D-D
Q673,Q674	22241054	M62429FP

REAR AMPLIFIER PC BOARD (NAAF-5895-1A/1B/1C/2/2A)

CIRCUIT NO.	PART NO.		DESCRIPTION
	Transistors		
Q801,Q802	2211732 or		2SC1845-F or
	2215116		2SC1775-F
Q803~Q806	2211353		2SA949-O
Q807,Q808	2211633		2SC2229-O
Q809,Q810	2211732 or		2SC1845-F or
	2215116		2SC1775-F
Q811,Q812	2213284		2SC1740S-R
Q813,Q814	2211353		2SA949-O
Q815,Q816	2213284		2SC1740S-R
Q817,Q818	2211633		2SC2229-O
Q819,Q820	2215163		2SD667A-C
Q821,Q822	2215173		2SB647A-C
Q823,Q824	2202923 or	*	2SC5196-O or
	2202922	*	2SC5196-R
Q825,Q826	2202913 or	*	2SA1939-O or
	2202912	*	2SA1939-R
Q827~Q830	2211732 or		2SC1845-F or
	2215116		2SC1775-F
	Diode		
D801,D802	22380032		1SR139-100
	Capacitors		
C801,C802	354742209		22 μ F,16V, Elect.
C805,C806	354744709		47 μ F,16V, Elect.
C807,C808	354741019		100 μ F,16V, Elect.
C815,C816	354781009		10 μ F,50V, Elect.
C819,C820	354781009		10 μ F,50V, Elect.
C823,C824	374724734		0.047 μ F±5%, 50V, Plastic
C827,C828	354764709		47 μ F,35V, Elect.
C831,C832	354762219		220 μ F,35V, Elect.
	Resistors		
R823-R826	443526804		68ohm±5%, 1/2W, Metal oxide
R833,R834	443525604		56ohm±5%, 1/2W, Metal oxide
R835,R836	443526804		68ohm±5%, 1/2W, Metal oxide
R841,R842	443521014		100ohm±5%, 1/2W, Metal oxide
R843~R846	453530224		2.2ohm±5%, 1/2W, Metal
R847,R848	4800047		RGC22,0.1 ohm×2, Metal plate
R855,R856	453630824		8.2ohm±5%, 1W, Metal
R859,R860	453530224		2.2ohm±5%, 1/2W, Metal
	Wire traps		
JL621b	25055624		NPLG-3P586
JL711b	25055627		NPLG-6P589
JL912b	25050271		NSCT-7P99
JL961b	25055625		NPLG-4P587
	Switch		
S961	25065286		NSS-22112, Slide <W>
	Terminals		
P961	25045439Y		NPJ-1PDBL263
P801	25060161Y		NTM-4PDMNL087

DIGITAL CIRCUIT PC BOARD (NADG-5896-1)
TX-SE500 only

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q1103	22241060	YSS240
Q1104	222780565JRC	NIM78M56FA
Q1105	22241061	YAC516
Q1106~Q1110	222956	NJM2068D-D
Q1111	22241062	HM62256BLSP-7
Q1112	222956	NJM2068D-D
	Diodes	
D1101~D1106	223163	1SS133
	Osicllator	
X1101	3010112	KD6586FFB

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q606	221281	DTC114YS <SE>
Q607	2213090	DTA114YS <SE>
Q652	2215163	2SD667A-C
Q675	2213631	RN1241-A
Q677,Q678	2213631	RN1241-A
	Oscillator	
X651	3010217	CST2.04MG040, Ceramic
	Diodes	
D651	224470682	MTZJ6.8B, Zener
D652~D657	223163	1SS133
D659	223163	1SS133
	Capacitors	
C601,C602	354780229	2.2 μ F,50V, Elect.
C605,C606	354781009	10 μ F,50V, Elect.
C607~C610	374721044	0.1 μ F±5%, 50V, Plastic
C611,C612	374726814	680pF±5%, 50V, Plastic
C613,C614	354741009	10 μ F,16V, Elect.
C616,C619	354742209	22 μ F,16V, Elect.
C617	374724724	4700pF±5%, 50V, Plastic
C618,C657	354744709	47 μ F,16V, Elect.
C620~C622	354741009	10 μ F,16V, Elect.
C623,C638	354781099	0.1 μ F,50V, Elect.
C624	354741009	10 μ F,16V, Elect.
C625	354722219	220 μ F,6.3V, Elect.
C627	374725614	560pF±5%, 50V, Plastic
C628	374721024	1000pF±5%, 50V, Plastic
C629,C656	374725624	5600pF±5%, 50V, Plastic
C630	374724734	0.047 μ F±5%, 50V, Plastic
C631	354786899	0.68 μ F,50V, Elect.
C632,C633	354782299	0.22 μ F,50V, Elect.
C634,C635	354780479	4.7 μ F,50V, Elect.
C636,C637	354782299	0.22 μ F,50V, Elect.
C639,C640	374724734	0.047 μ F±5%, 50V, Plastic
C641,C642	354781099	0.1 μ F,50V, Elect.
C643,C644	374722234	0.022 μ F±5%, 50V, Plastic
C645	354781099	0.1 μ F,50V, Elect.
C647~C649	354741009	10 μ F,16V, Elect.
C650	354780479	4.7 μ F,50V, Elect.
C651	374722224	2200pF±5%, 50V, Plastic
C652,C653	374725614	560pF±5%, 50V, Plastic
C654,C655	374721044	0.1 μ F±5%, 50V, Plastic
C658,C659	374724734	0.047 μ F±5%, 50V, Plastic
C660	354781009	10 μ F,50V, Elect.
C661,C662	354721019	100 μ F,6.3V, Elect.
C663	354741009	10 μ F,16V, Elect.
C664	354741019	100 μ F,16V, Elect.
C665,C666	354741009	10 μ F,16V, Elect. <SE>
C667,C668	354741009	10 μ F,16V, Elect.
C669,C670	354780229	2.2 μ F,50V, Elect.
C671~C673	354741009	10 μ F,16V, Elect.
C674	354780229	2.2 μ F,50V, Elect.
C676,C677	354741009	10 μ F,16V, Elect.
C685,C686	354721019	100 μ F,6.3V, Elect.
C687	354741009	10 μ F,16V, Elect.
C689~C691	354741009	10 μ F,16V, Elect.
	Resistor	
R696	5104392	N16RFL50KA25F, Variable
	Sockets	
JL621a	25051087	NSCT-3P874
JL622a	25051094	NSCT-10P881
P611b	25055885Y	NPLG-12P841
P612b	25051235Y	NSCT-10P1025

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C1116,C1117	354741009	10 μ F,16V, Elect.
C1118~C1120	374723324	3300pF±5%, 50V, Plastic
C1121,C1131	354741009	10 μ F,16V, Elect.
C1122	374721024	1000pF±5%, 50V, Plastic
C1123	354741019	100 μ F,16V, Elect.
C1126~C1129	354741009	10 μ F,16V, Elect.
C1130,C1165	374721044	0.1 μ F±5%, 50V, Plastic
C1132,C1133	374721044	0.1 μ F±5%, 50V, Plastic
C1134,C1138	354741009	10 μ F,16V, Elect.
C1135,C1136	374721044	0.1 μ F±5%, 50V, Plastic
C1139,C1147	374722724	2700pF±5%, 50V, Plastic
C1140,C1148	374726824	6800pF±5%, 50V, Plastic
C1141,C1149	374723915	390pF±10%, 50V, Plastic
C1142~C1146	354741009	10 μ F,16V, Elect.
C1150,C1156	374722724	2700pF±5%, 50V, Plastic
C1151,C1154	374726824	6800pF±5%, 50V, Plastic
C1152,C1158	374723915	390pF±10%, 50V, Plastic
C1153,C1159	374721824	1800pF±5%, 50V, Plastic
C1155,C1161	374722715	270pF±10%, 50V, Plastic
C1157,C1160	374726824	6800pF±5%, 50V, Plastic
C1162	374722724	2700pF±5%, 50V, Plastic
C1163	374726824	6800pF±5%, 50V, Plastic
C1164	374723915	390pF±10%, 50V, Plastic
C1170,C1171	374721015	100pF±10%, 50V, Plastic
	Plugs	
JL623b	25055626Y	NPLG-5P588
JL752b	25055672Y	NPLG-6P589
P1103a	25055884Y	NPLG-6P840
P1104a	25055889Y	NPLG-3P842

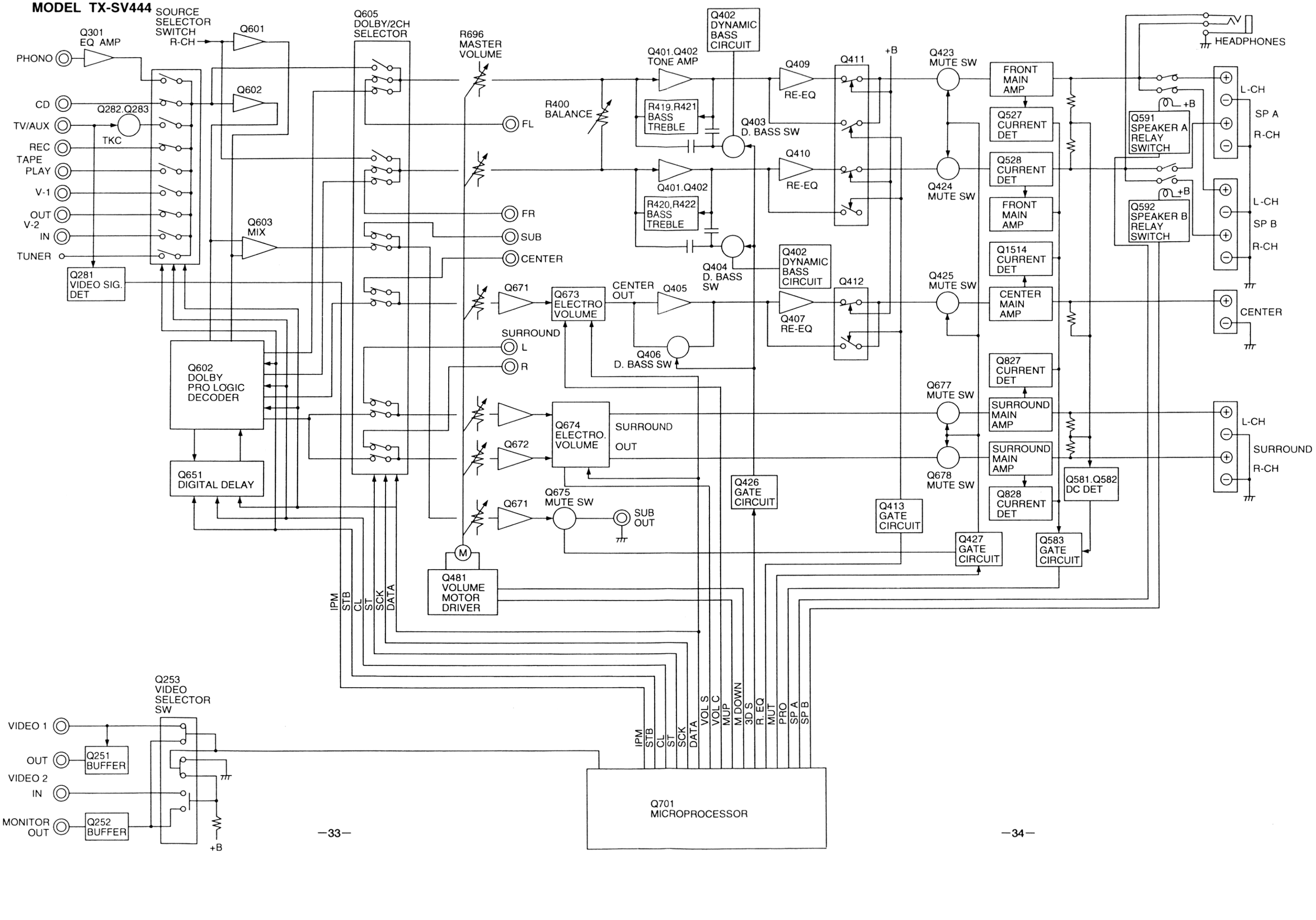
MIC. TERMINAL PC BOARD (NAETC-5897-1)
TX-SE500 only

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q1101,Q1102	222956	NJM2068D-D
	Capacitors	
C1101	374721015	100pF±10%, 50V, Plastic
C1102	354744709	47 μ F,16V, Elect.
C1103	374722224	2200pF±5%, 50V, Plastic
C1104	374721215	120pF±10%, 50V, Plastic
C1105,C1106	354741019	100 μ F,16V, Elect.
C1107	374721015	100pF±10%, 50V, Plastic
C1108	354744709	47 μ F,16V, Elect.
C1109	374722224	2200pF±5%, 50V, Plastic
C1110	374721215	120pF±10%, 50V, Plastic
C1111	374721024	1000pF±5%, 50V, Plastic
C1112	354742209	22 μ F,16V, Elect.
C1113	354744709	47 μ F,16V, Elect.
C1114,C1115	374721015	100pF±10%, 50V, Plastic
	Terminals	
P1101,P1102	25045492Y	NPJ-1PDBL309
	Plug	
JL751a	25055628Y	NPLG-7P590
	Socket	
JL752a	25051090Y	NSCT-6P877

NOTE: <D>:120V model only
<P>:230V model only
<W>: Asian model only
<T>: Taiwanese model only
<A>: Australian model only
<K>: Korean model only
<SE>: TX-SE500 only

BLOCK DIAGRAM

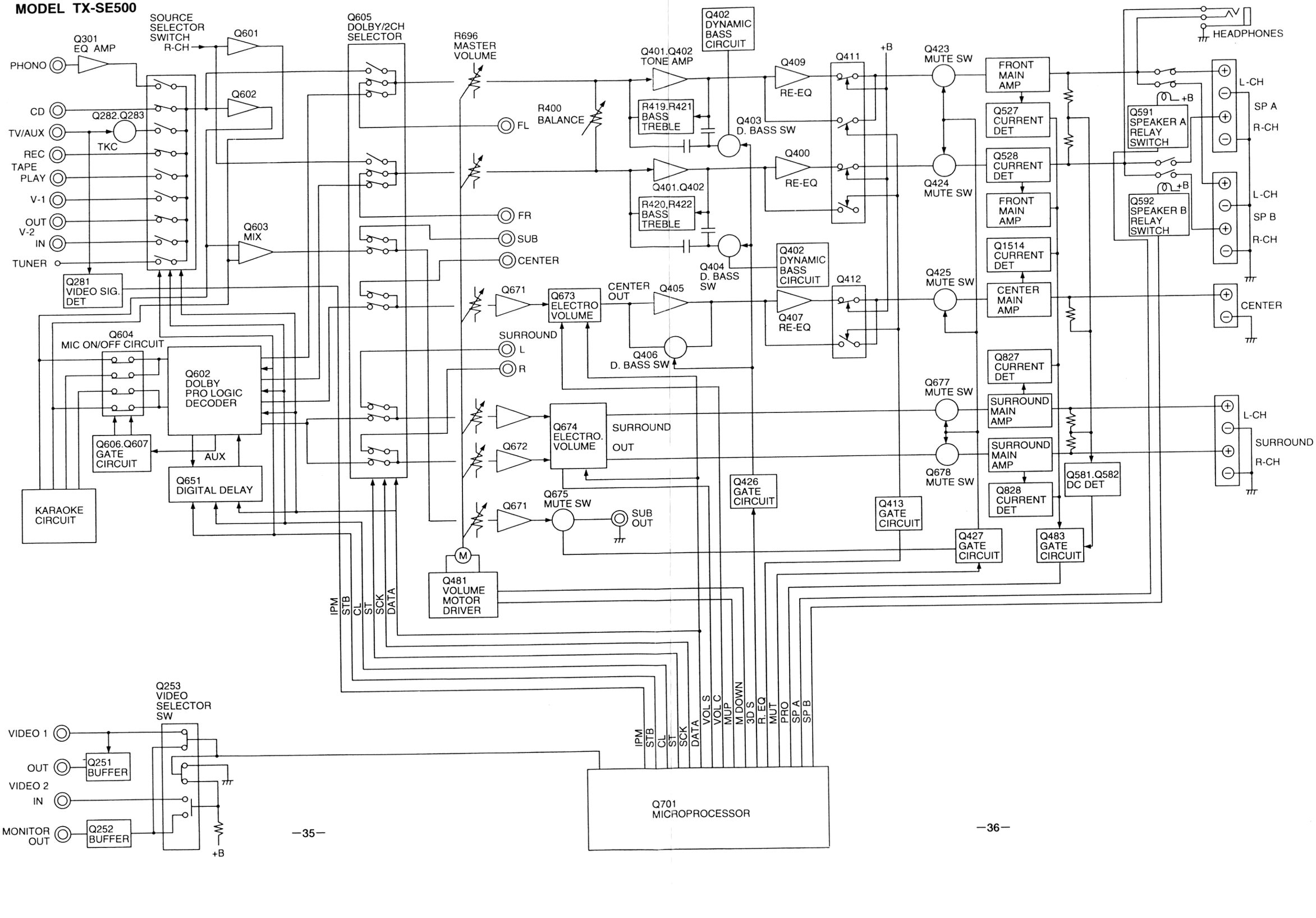
MODEL TX-SV444



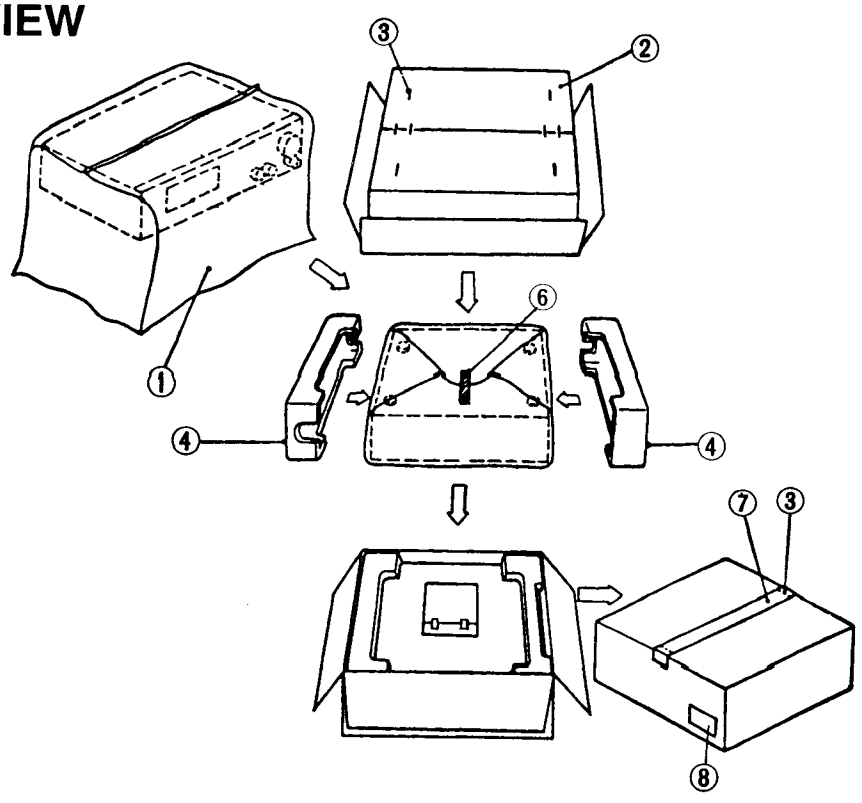
TX-SV444
TX-SE500

BLOCK DIAGRAM

MODEL TX-SE500



PACKING VIEW



MODEL TX-SV444

REF. NO.	PART NO.	DESCRIPTION
1	29100034-1AY	850x650, Poly bag
2	29053089Y	Carton box <D>
2	29053090AY	Carton box <A/K/T/W>
2	29053091Y	Carton box <P>
3	282321	Staple
4	29091763AY	Pad ass'y
6	261504	Paper tape
7	29110071	P. P tape
8	29362093Y	Label EAN <P>
	232140	NMA-3057, AM loop antenna
	3010054	UM-3, Battery
	24140327Y	RC-327S, Remote control
	25055018	CV-1K-1, Conversion plug <W>
	25065462Y	YAE21-0237, FM adaptor <K/A/T>
	29100097-1AY	350x250, Poly bag
	292111Y	FM antenna <D>
	292112Y	FM antenna <P/K/A/T/W>
	29342375Y	Instruction manual E
	29342376Y	Instruction manual FSI <P>
	29342377Y	Instruction manual GSWD <P>
	29342378Y	Instruction manual T <T/W>
	29358002K	Service station list <D>
	29361786Y	Label <K/A/W>
	29365019B	Warranty card <D>

NOTE: <D>:120V model only
<P>:230V model only
<W>:Taiwanese model only
<A>:Australian model only
<T>:Asian model only
<K>:Korean model only

MODEL TX-SE500

REF. NO.	PART NO.	DESCRIPTION
1	29100034-1AY	850x650, Poly bag
2	29053092Y	Carton box <B>
	29053146Y	Carton box <G>
3	282321	Staple
4	29091763AY	Pad ass'y
6	261504	Paper tape
7	29110071	P. P tape
8	29362094Y	Label EAN <B>
	29362134Y	Label EAN <G>
	Accessary bag ass'y	
	24140326Y	RC-326S, Remote control
	3010054	UM-3, Battery
	232140	NMA-3057, AM loop antenna
	292112Y	FM antenna
	25065462Y	YAE21-0237, FM adaptor
	29342375Y	Instruction manual E
	29342378Y	Instruction manual T <P/W>
	29355221Y	Instruction sheet
	25055018	CV-1K-1, CV Plug
	29100097-1AY	350x250, Poly bag

NOTES: <B>: Black model only
<G>: Golden model only
<P>: Asian model only
<W>: Taiwanese model only
<K>: Korean model only

SCHEMATIC DIAGRAM 1/3

NAAR-5884

PHONO EQUALIZER

SELECTOR MONITOR

MOTOR DRIVE

BALANCE TREBLE BASS TREBLE BASS

TC9273N-011

DTA124ES

DTA114TS

2SD1450T

NJM2068

Q403, Q404, Q406: 2SK246GR
Q423, Q424, Q425: RN1241-A
Q411, Q412: LC4966

Q251, Q252 : 2SC1740S OR 2SC2458

D251 : 1SS133 OR 1SS270A

Q253 : 40668

TYPE	C317, C318 C321, C322 C325, C326 C327, C328 C329, C330	C341 C342	C403 C404
MD	NO	YES	NO
MP MPT MWT MGK	YES	NO	YES

NOTE

- THE COMPONENTS INDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFTY REPLACE ONLY WITH PART NUMBER SPECIFIED
- VOLTAGE (MEASURED WITH VOLTMETER) ⊏ IS DC VOLTAGE. (NO INPUT SIGUNAL)
- ELECTROLYTIC CAPACITORS ( ) ARE IN uF/V.
- ALL CAPACITORS ARE IN pF/50V UNLESS OTHERWISE NOTED. EX) 3pF →030, 33pF →330, 330p →331, 0.033uF →333
- ALL RESISTERS ARE IN OHMS 1/6WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS EX) ▭▭ ↙PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT .

F G H I J K

RIVE

P1103b P1104b

TX-SE500

E -12V +12V +5V XOUT XIN +5V

NJM2068

Q409 (1/2) Q409 (2/2)

C433 122K R457 18K R453 6.8K C435 122K R455 2.2K R467 10K C437 10/16 R463 10K R447 2.7K R459 100K R461 4.7K C439 222K

11.9V R466 47K Q413 DTA114YS R.EQ

Q411 Q423 C465 10/16 0V R501 56K R502 56K

11.9V Q424 C466 10/16 0V Q425 C467 10/16 0V R1501 56K

-11.9V R465 47K C440 222K R462 4.7K R460 100K C438 10/16

C432 10/16 Q410 (2/2) NJM2068 C434 122K R458 18K Q410 (1/2) R454 6.8K C436 122K R456 2.2K R448 2.7K R464 10K R468 10K

R482 1.5K -9.4V -7.4V Q427 DTA114ES 0V C463 10/16 R483 56K

R481 220K -11.6V 11.9V Q426 DTA114YS

MUT 3D BASS

C403 C404	C513, C514 C1507		C915, C916
NO	NO		8200/56V
YES	YES		10000/56V

D501 1SR139-100 44.7V R559 10K C538 223Z R567 2.2 (1/2W) R560 22K Q583 2SA992 44.3V R551 33K

43.6V R517 1K R519 1K R521 68 (1/2W) R523 68 (1/2W) 43.1V 43.1V Q513 2SA949 1.1V Q519 2SC5171 0.6V

42.6V Q507 2SA949 C511 070C R573 100k R539 2.2 (1/2W) Q523 2SC5242 R545 1.8K Q527

*C513 101K 42.6V 2SC1845 Q503 R505 470 C501 10/16 Q501 2SC1845 R535 18K R537 6.8K C523 020D C515 181J Q517 2SC1740S R547 0.1 x2 (5W)

R507 18 R509 18 820 R515 C503 101K -0.71V R503 56K C525 470 /63 C505 220/16 -13.2V 0V R511 5.6K Q509 2SA949 R529 56 (1/2W) R531 18K -1.0V R533 3.3K R513 56K C509 10/50 R543 100 (1/2W) R549 470 C517 223Z -0.6V R541 2.2 (1/2W) Q525 2SA1962

R565 100K -42.5V Q505 2SC1845 -43.1V C526 470 /63 C521 47/16 R561 270 R563 100K Q529 2SC1740S Q511 2SC2229 -43.2V -42.5V Q515 2SC2229 -43.1V R525 56 (1/2W) R527 68 (1/2W) -43.6V Q521 2SA1930

D503 R569 -44.6V 1SR139-100 2.2 (1/2W)

D502 1SR139-100 R568 2.2 (1/2W)

R518 1K R520 1K R522 68 (1/2W) R524 68 (1/2W) Q520 2SC5171 Q514 2SA949 C512 070C R574 150K R540 2.2 (1/2W) Q524 2SC5242 R552 33K Q528

2SA949 Q508 *C514 101K 2SC1845 Q504 C502 10/16 R506 470 Q502 2SC1845 R536 18K R538 6.8K C524 020D C516 181J Q518 2SC1740S R546 1.8K R548 0.1 x2 (5W)

C527 470/63 R508 18 R510 18 R516 820 R504 56K C504 101K Q510 2SA949 C508 10/50 R512 5.6K C506 220/16 R530 56 (1/2W) R532 18K R534 3.3K R514 56K C510 10/50 R544 100 (1/2W) R550 470 R554 47K R542 2.2 (1/2W) Q526 2SA1962 C518 223Z R553 47K

R566 100K Q506 2SC1845 C528 470/63 C522 47/16 R562 270 R564 100K Q530 2SC1740S Q512 2SC2229 R526 56 (1/2W) Q516 2SC2229 R528 68 (1/2W) Q522 2SA1930 D504 1SR139-100 R570 2.2 (1/2W) R571 33K

Q582 Q581 C581 100 /6.3 0V PROT

R1510 1K R1511 1K R1512 68 (1/2W) R1513 68 (1/2W) Q1510 C1515 10/50 Q1507 2SA949 C1506 070C R1532 150K R1520 6.8K R1522 2.2 (1/2W) Q1512 2SC5242 R1527 33K Q1514 R1572 10K C1513 10/50

Q1504 2SA949 *C1507 101K 2SC1845 R1502 C1501 22/16 R1503 470 Q1501 2SC1845 R1509 18K C1509 020D C1508 181J Q1509 R1508 56K C1505 10/50 R1524 0.1 x2 (5W) R1525 1.8K R1528 47K C1514 10/50 C1511 104J R1529 8.2 (1W)

R1504 56 R1505 56 1.8K R1507 R1502 56K C1502 101K R1506 5.6K C1503 100/16 2SA949 Q1505 56 R1517 (1/2W) R1518 18K 3.3K R1519 R1521 100 (1/2W) C1510 223Z R1526 470 R1523 2.2 (1/2W) Q1513 2SA1962

R1531 100K R1530 100K Q1503 2SC1845 C1516 10/50 C1512 47/16 R1514 270 Q1515 2SC1740S Q1506 2SC2229 R1515 56 (1/2W) Q1508 2SC2229 R1516 68 (1/2W) Q1511 2SA1930 C1517 10/50

SPEAKERS FRONT

P923a P923b S503 S501 A B L R P501 R555 8.2 (1W) C519 104J P921b P921a P922a P922b C520 104J R556 8.2 (1W) S502 S504

D591 1SS133 D592 1SS133 RL501 RL502 0V 27.5V C591 223Z Q591 3.3V Q592 C592 223Z SP A SP B 0V Q591, Q592 DTC123JS

R557 390 (1W) R558 390 (1W) H/R H/L

C583 223Z P924a P924b JL914a E E CENTER SPEAKER

RBV602 D910 *C915 *C916 P916a P918a P917a

D923, D924 : 1SS133
D915-D921 : 1SR139-100
D922 : MTZ33D

Q921 : 78M12HF
Q922 : 79M12HF
Q923 : 78M56
Q924 : 2SA1015

D915 D916 D917 D918 D916-D918

Q921 OUT IN G 11.9V 18.6V C922 10/50 C920 223Z C917 3300 /25 C921 223Z C923 10/50 G OUT IN Q922 -11.9V -20.5V C918 1000 /35

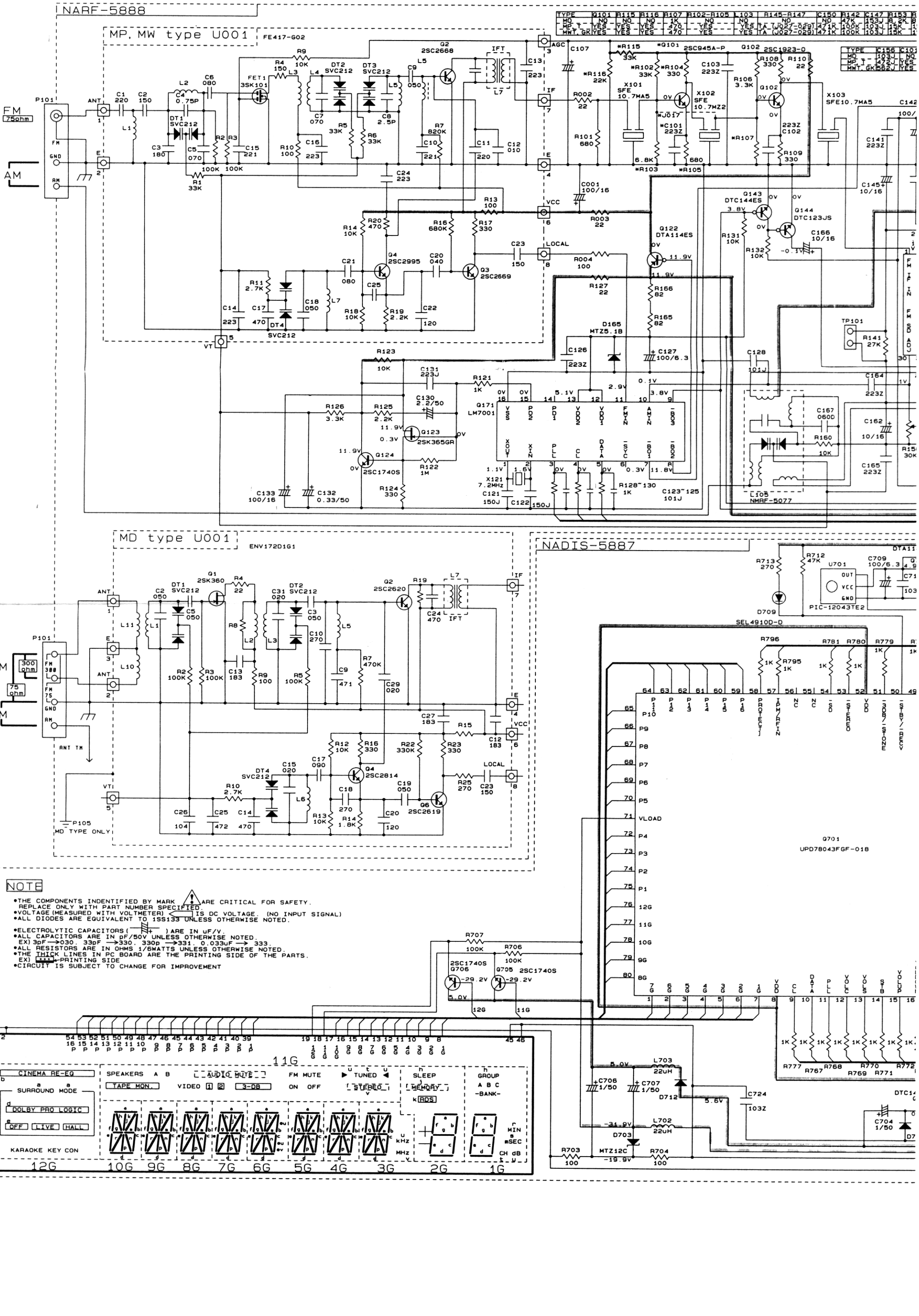
Q923 OUT IN G 5.6V 17.9V D919 C932 10/16 C927 223Z C930 223Z D922 C929 100 /50 R931 3.3K R932 33K C931 223Z -32.8V -32.2V -37.3V Q924 D920 13.4V C928 100 /50 D921 -18.7V C926 10/50

D911 RS403L -27.9V C924 4700/35 C925 4700/35 27.7V

JL911a AC AC ACH ACH ACL E ACL E +B -B E E I PRO V PRO JL912a

E +5 E +VP -VP AC AC PRO M CONN M UD IIR IIE IIL SDA SDB SD STEREO TMUT RDS IPM/BFIN V-I-V PLL CL DATA ST STB VOL C VOL S RC/STONE R.EQ SCK CCI CS

SCHEMATIC DIAGRAM 2/3



NOTE

- THE COMPONENTS INDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) < > IS DC VOLTAGE. (NO INPUT SIGNAL)
- ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS(⊣+) ARE IN uF/V.
- ALL CAPACITORS ARE IN pF/50V UNLESS OTHERWISE NOTED.
  EX) 3pF →030. 33pF →330. 330p →331. 0.033uF → 333.
- ALL RESISTORS ARE IN OHMS 1/6WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
  EX) ▭ ← PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT

F G H I J K

	C147	R153	R154	C155
OK	153J	8.2K	8.2K	103J
OK	103J	15K	15K	472J
OK	103J	15K	15K	562J

TYPE	C156	C101
MD	103J	NO
MP, MW	472J	YES
MWT, GK	562J	YES

11.8V
DTA114ES
Q142
0.25V
R144 4.7K
11.8V
R148 3.3K
C151 1/50
C152 1/50
C153 0.33/50
L104 2.2U
C178 10/16
R149 5.1K
L102
L101
L103 NMC-6084
.7MA5
C142 100/16
C141 223Z
C144 223Z
C145 10/16
C143 223Z
R143 8.2K
C146 332J
C148 221K
C149 4.7/50
*R145
*R142
*R147
*R146
C150 471K
R150 5K
X104 CSB 456 F23
9.7V
*C155
*R153
*R154
*C156
*C147

MP, MW type

+B 11.9V
Q171 2SC1740S
Lch 6.1V
R173 2.7K
C171 10/16
L107 NMC-4085
5.4V
R171 1K
GND
R172 1K
5.4V
R174 2.7K
C172 10/16
L108 NMC-4085
Rch 6.1V
Q172 2SC1740S
R175 5.6K
R176 5.6K
Lch 0V
Rch 0V
Q173 2SD1468-R
Q174 2SD1468-R
0.65V
DTA114ES Q175
0V
1.4V
C177 2.2/50
R183 1K
R182 2.2K
R181 2.2K

MD type

+B
Q171 2SC1740S
11.7V
Lch
6.2V
R173 2.7K
C209 10/16
NCH-2140 L109
Lch
R171 1K
GND
R172 1K
C174 102J
R174 2.7K
C210 10/16
Rch
Rch 6.7V
L110 NCH-2140
11.7V
Q172 2SSC1740S

P211b
TO NAAR-5884
STEREO
SD
TU MUT
+12
TU-R
E
TU-L
E
RDS
RFIN/ST
PLL
CL
DATA
RF IN
TX-SV841 ONLY

MP ONLY

C195 103Z
R195 680K
Q182 2SC 1740S
6.4V
11.8V
6.0V
C196 103Z
R197 3.3K
R198 1K

R141 27K
C164 223Z
C162 10/16
C163 223Z
C165 223Z
C161 223Z
C160 0.47 /50
2.1V
R158 30KBC
R157 100K
L106
X105
SFZ-450JL
C159 2.2/50
5.2V
R156 1K
R155 22K
C154 10/16
R151 8.2K

Q103 LA1851N-F

TYPE	MODE1 R723	MODE1 R726	AREA R724	AREA R727	MODE2 R725	MODE2 R728	R783	C725	S701	S739	R782 R788 R792
MD	NO	TA	3.3K	NO	NO	TA (J701)	NO	NO	YES	NO	NO
MP	22K	NO	NO	TA (J703)	NO	TA (J701)	NO	YES	NO	YES	NO
MWT	22K	3.3K	3.3K	NO	NO	TA (J701)	470	YES	NO	YES	NO
MPA	22K	3.3K	NO	TA (J703)	NO	TA (J701)	NO	YES	NO	YES	NO
MPT	22K	3.3K	NO	TA (J703)	NO	TA (J701)	NO	YES	NO	YES	NO
MGK	22K	3.3K	NO	TA (J703)	NO	TA (J701)	NO	YES	NO	YES	NO
(SE500) MPT/MGK	5.6K	3.3K	NO	TA (J703)	NO	TA (J701)	NO	YES	NO	YES	YES
(SE500) MWT	5.6K	3.3K	3.3K	NO	NO	TA (J701)	470	YES	NO	YES	YES

EXCEPT MD
*S739
*C725 223Z

JL711a
POWER2
AREA
RI
POWER
+13V
E
470 *R783
TO NAAF-5895

DTA114ES -1.9V D705
C709 100/6.3
Q707 4.9V
R711 47K
4.8V
D704
MTZ5.6B D706
R785 220K
5.5V
C710 103Z
4.93V
R709 10K
C708 103Z
4.9V
MTZ5.6B D707
13.3V
R710 470
D708
7.7V
*R782
*R792
*R788
R780 1K
R779 1K
R778 1K
1K 1K 1K

MP ONLY

Q751 UPC1346CS
C761 220J
C762 220J
X751 AF6146CG
DATA CLK
RDS IND
S/L CTL
OP. CTL
TEST
D. GND
OUT
IN
VDD
DEF. DECORDER
CLOCK RECOVERY
OSC
SK IND
SK DET
BIPHASE DECORDER
SELECTOR
DSB DEMOD
BPF
INTEG
A.GND
BPF ADJ
PSK O
PSK I
LPF SK
LPF Q
LPF I
DSB IN
OUT
IN
VCC
C760 472J
C758 473J
C757 2.2/50
C754 472J
TP701
C752 103Z
D751
C751 100/6.3
R798 50KB
C759 223J
C756 332J
C755 332J

NAETC-5891

TYPE	C575, C576
MD	NO
MP	YES
MWT	NO
MPT	YES
MGK	YES
MPA	YES
MDC	NO

*C575 102K
*C576 102K
P503

TO NAAR-5884
P701a
DSPCS
DSPDATA
DSPSCK
RE-EQ
3D BASS /S TONE
VOL S
VOL C
STB
REQ
DATA
CL
PLL
VIDEO-1V
IPM /RF IN
RDS
TU MUT
STEREO
SD
SP-B RL
SP-A RL
HP L
HP E
HP R
VOL UP
VOL DOWN
PROTECT
AC
AC
-VP
E
+5.6V
E
E
+13V
FRONT MUT

FM IF IN
FM OSC ADJ
FM OSC OUT
AM OSC
VREG
AM RF
AM MIX
AM IF IN
GND
*SMUTE
*SD
IF CNT OUT
*AM/FM
MUTE
AM OSC ADJ
VCC
SWP OUT
MIX VCC
LOUT
ROUT
Q103 LA1851N-F

R776 1K POWER
R775 1K SPARL
R789 1K SPBRL
R790 1K FRONT MUTE
R791 1K TUMUT
R715 10K
R716 10K
D710 5.0V
X2
X1
X701 CST4.19MGW
VSS
R717 47K
C711 100/6.3
XT2
XT1
AVREF
C712-C716 .47K
5.0V
R718 -R722 3.3K
D711
AVDD
R729-R733 4.7K
C712 R718
K0 C713 R719
K1 C714 R720
K2 C715 R721
K3 C716 R722
R733
*R726 *R723
*J703 *R727 *R724
*J701 *R728 *R725

VOS SUB VCP VOSCIN TMAMI TMAMO TEST1 TEST2 VSS MOSCIN MOSCOUT MEA MEM1 K4
1K 1K 1K 1K R786 470 1K
R770 R769 R771 R772 R773 R784 R774

DTC144ES Q703
4.8V
R702 47K
C704 1/50
0V
D702
C705 103Z
4.8V
C702 474J
D701
5.5V
R701 100
C703 100/6.3
C701 0.047F
L701 22uH

K0
R734 470 *S701 POWER
R735 680 S702 SP-A
R736 820 S703 SP-B
S704 DIMER
1.2K R740
R765 8.2k S705 KEYCON
R766 12k S706 KARAOKE
SE500
K1
R737 470 S707 CD
R738 680 S708 PHONO
R739 820 S709 AM
S710 FM
S711 TV/AUX TAPE-1 (8411)
R741 2.2K S712 VIDEO2
R742 4.7K S713 VIDEO1
R743 12K DVD DECODER
S714
K2
R744 470 S715 GROUP
R745 680 S716 0/10 9 S717
R746 820 S718 MEMORY
R747 1.2K S719 DIRECT TUNING
R748 2.2K S720 TUNING UP
R749 4.7K S721 TUNING DOWN
R750 12K S722 TAPE
K3
R751 470 S723 SCAN
R752 680 S725 S.MODE
R753 820 S726 3D BASS
R754 1.2K S727 P.CON UP
R755 2.2K S728 P.CON DOWN
R756 4.7K S729 P.SEL DOWN
R757 12K S730 P.SEL UP
K4
R758 470 S731 1
R759 680 S732 2
R760 820 S733 3
S734 4
R761 1.2K S735 5
R762 2.2K S736 6
R763 4.7K S737 7
R764 12K S738 8
FM MUTE MODE

SCHEMATIC DIAGRAM 3/3

	MDN TYPE	MP TYPE	MGK TYPE
C692~C695 C881~C887	NO	YES	YES

NAAF-5894

TX-SE500 ONLY

TX-SV444 ONLY

MASTER VOLUME

R696 50KA

TC9164N

Q602 NJW1102AF

Q603 4066

Q605

Q607 DTA114YS

Q606 DTC114YS

Q671 (1/2) NJM2068DD

Q672 (1/2) NJM2068DD

Q672 (2/2) NJM2068DD

Q671 (2/2) NJM2068DD

Q673

Q674

Q675 RN1241-A

X651 CST2.04MG040

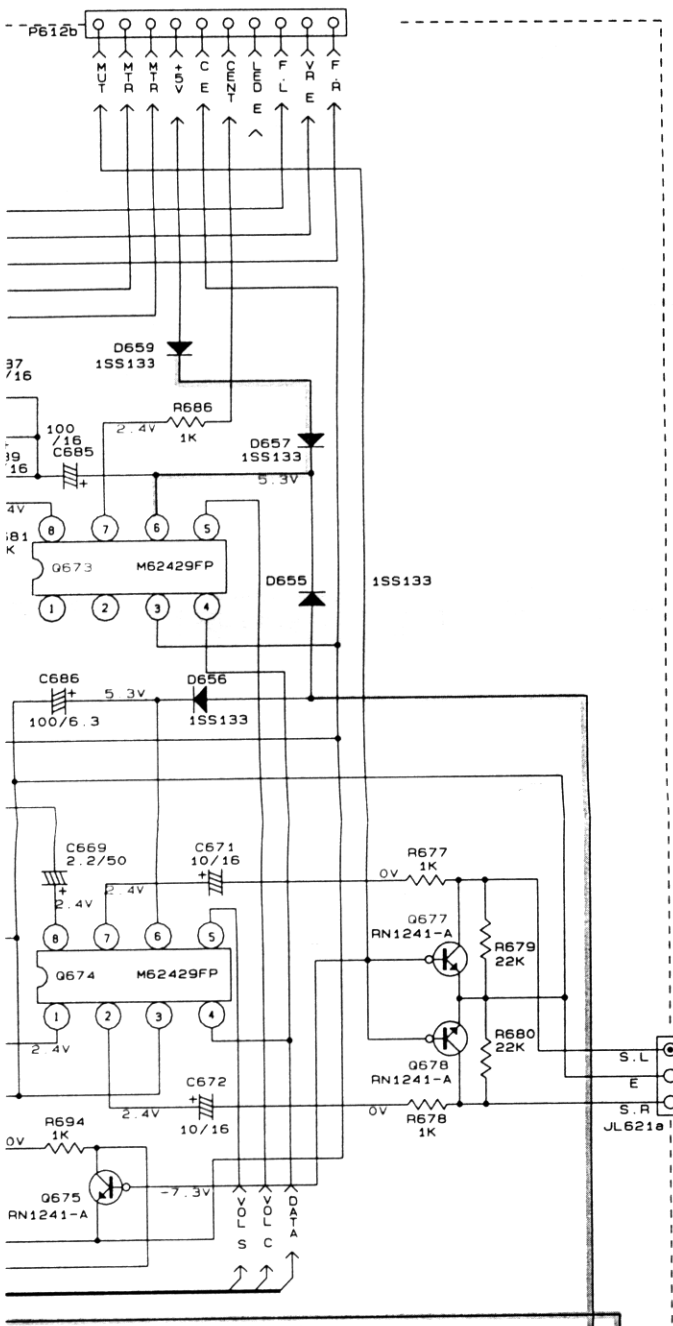
CENTER SPEAKER

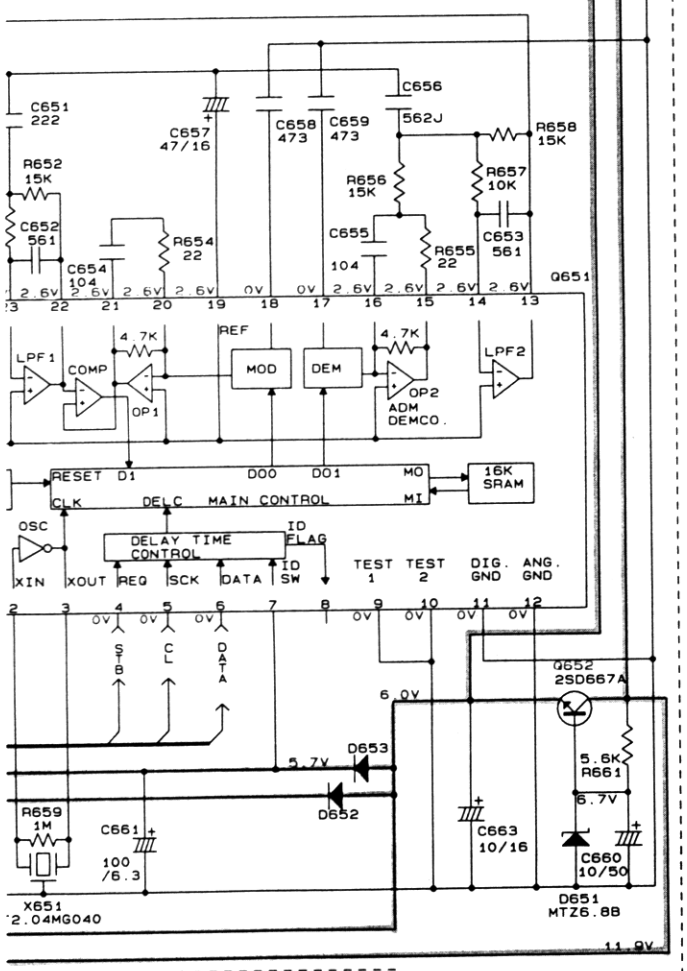
DOLBY PRO LOGIC DECODER

NOTE

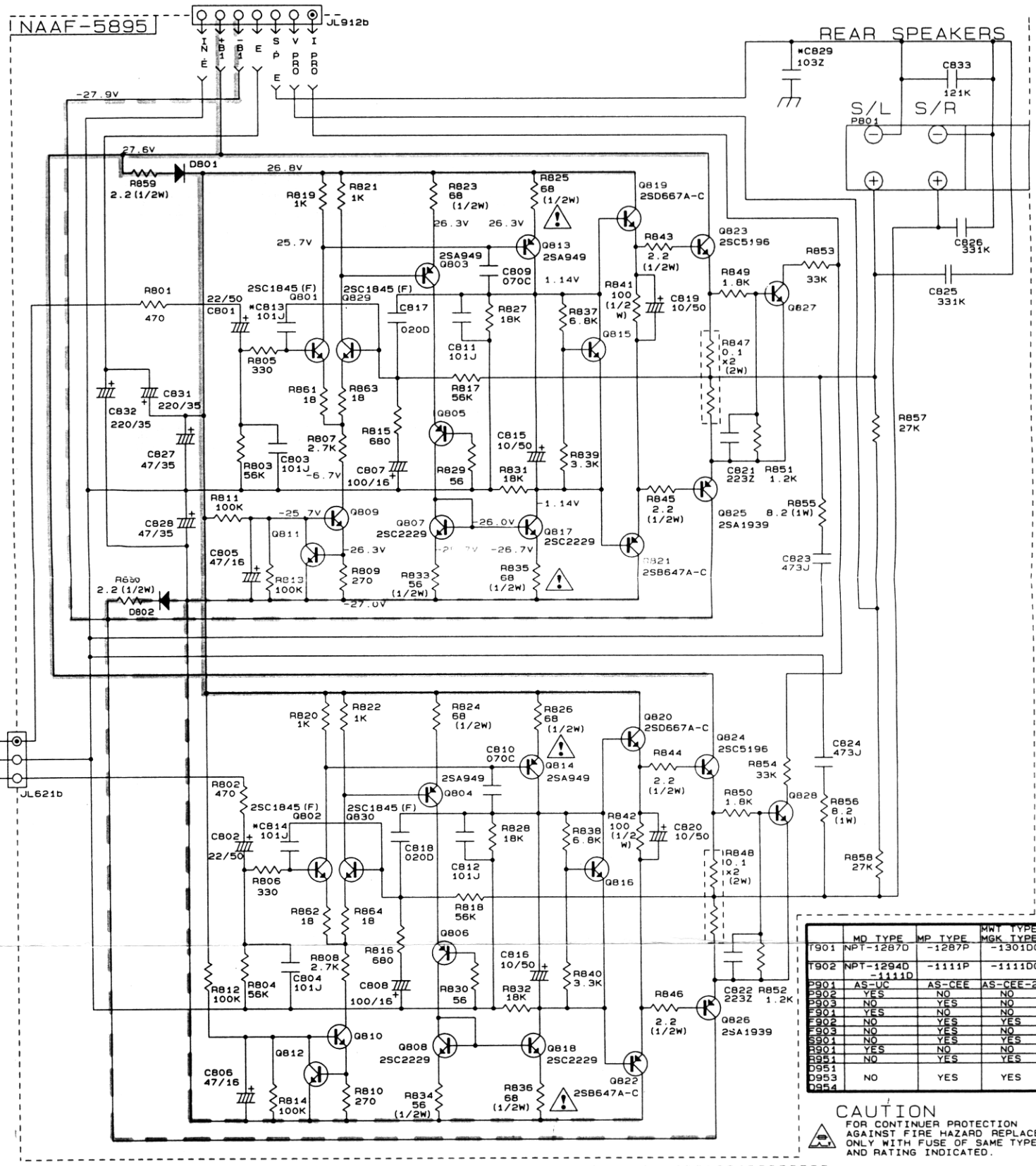
- THE COMPONENTS IDE
  REPLACE ONLY WITH
- VOLTAGE (MEASURED W
- ALL DIODES ARE EQU
- ELECTROLYTIC CAPAC
- ALL CAPACITORS ARE
  EX) 3pF → 030.
- ALL RESISTORS ARE
  THE THICK LINES IN
  EX) ▭ ← PRINTING
- CIRCUIT IS SUBJECT

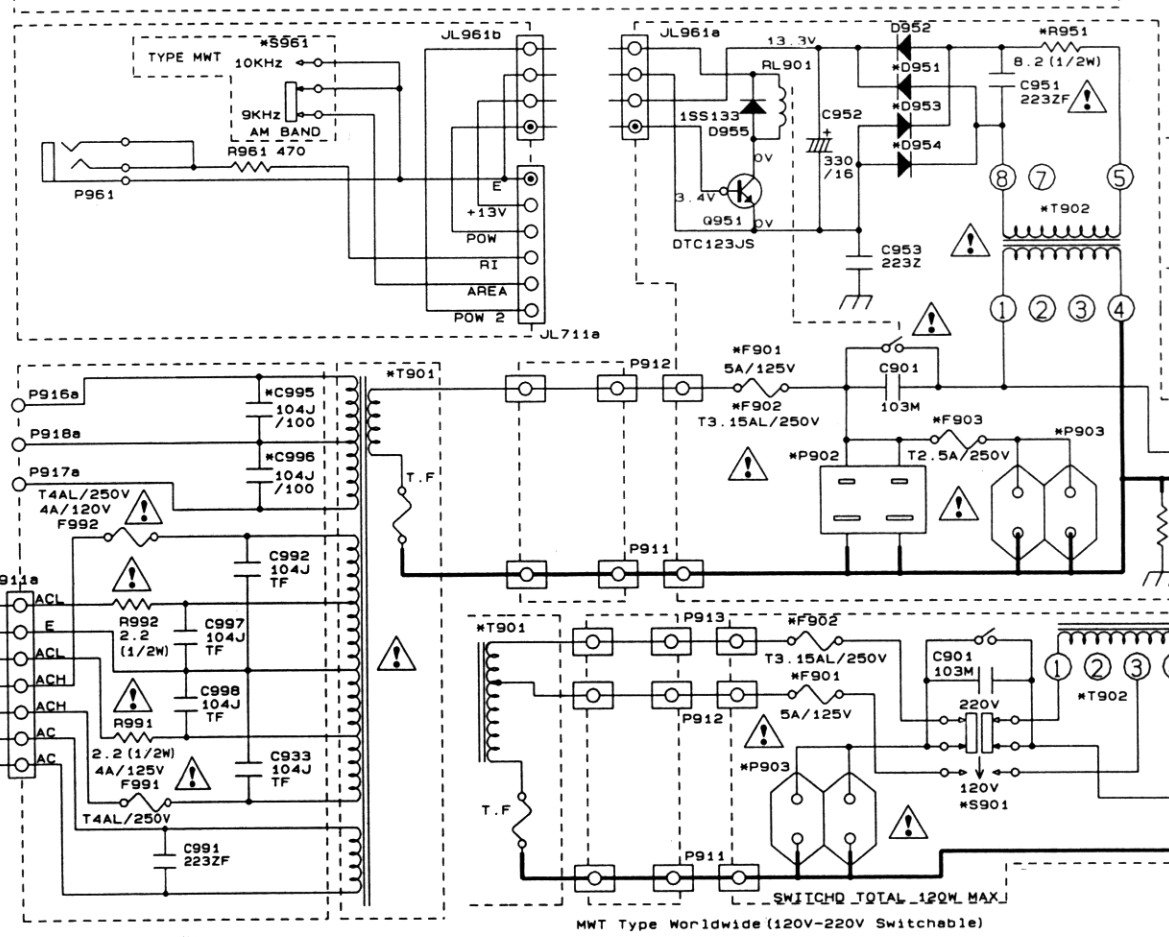
F G H I J K





DIGITAL DELAY





	MD TYPE	MP TYPE	MWT TYPE MGK TYPE
T901	NPT-1287D	-1287P	-1301DG
T902	NPT-1294D -1111D	-1111P	-1111DG
P901	AS-UC	AS-CEE	AS-CEE-2
P902	YES	NO	NO
P903	NO	YES	NO
F901	YES	NO	NO
F902	NO	YES	YES
F903	NO	YES	NO
S901	NO	YES	YES
R901	YES	NO	NO
R951	NO	YES	YES
D951 D953 D954	NO	YES	YES

CAUTION

FOR CONTINUER PROTECTION AGAINST FIRE HAZARD REPLACE ONLY WITH FUSE OF SAME TYPE AND RATING INDICATED.

ATTENTION

AFIN D'ASSURER UNE PROTCTION PERMANENTE CONTRE LES RISQUES D'INCENDIE REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE ETCALIBRATION COMME INDIQUE.

THIS SYMBOL LOCATION NEAR THE FUSE INDICATES THAT THE FUSE USED IS SLOW OPERATING TYPE FOR CONTINUED PROTECTION AGEINST FIRE FUSE HAZARD REPLACE WISE SAME TYPE FUSE. FOR FUSE RETING REFER TO THE MAKING ADJASENT TO THE SYMBOL.

Ce symbole indique que le fusible utlise est a lent.e
Pour une protrction permanant .n'utiliser que des fusibles de de meme type.
Ce darnier est indique la qu le present symbol est appose.

OMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY.
CE ONLY WITH PART NUMBER SPECIFIED.
GE(MEASURED WITH VOLTMETER) ⟸ IS DC VOLTAGE. (NO INPUT SIGNAL)
IODES ARE EQUIVALENT TO 1SS133 UNLESS OTHRWISE NOTED.

ROLYTIC CAPACITORS(—|(+) ARE IN uF/V.
APACITORS ARE IN pF/50V UNLESS OTHERWISE NOTED.
3pF → 030. 33pF → 330. 330pF →331. 0.033uF →333.
ESISTORS ARE IN OHMS 1/6WATTS UNLESS OTERWISE NOTED.
HICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
PRINTING SIDE
IT IS SUBJECT TO CHANGE FOR IMPROVEMENT.